BULLETIN
OF THE
American Schools of Oriental Research

JERUSALEM BAGHDAD

NUMBER 154 APRIL, 1959

Published Quarterly (February, April, October, December)
by the American Schools of Oriental Research. Editor W. F. Albright, Gilman Hall 118, Johns Hopkins University, Baltimore 18, Md. Subscription price $2.00 a year, payable to the American Schools of Oriental Research, Drawer 93A, Yale Station, New Haven, Conn.

Entered as second class matter January 18, 1934, at the Post Office at Baltimore, Md. Acceptance for mailing at special rate of postage provided for in Act of February 28, 1925.

PRINTED IN THE UNITED STATES OF AMERICA, BY J. H. FURST COMPANY, BALTIMORE, MARYLAND

TABLE OF CONTENTS

	PAGE
Letter from the President's Desk	1
Spring Meeting of the Board of Trustees	3
Excavations at Sardis, 1958. George M. A. Hanfman	5
The Date of Casemate Walls in Judah and Israel and Their Purpose. Yohanan Aharoni	35
Some Recent Books on Biblical Geography, Archaeology, Literature and History	39

For indexes to the BULLETIN see Nos. 50, 74, 76, 80, 103, 105, 141.

LETTER FROM THE PRESIDENT'S DESK

The Spring meeting of the Board of Trustees was held in New York City on April 5th. An abridged version of the minutes is included in this issue of the BULLETIN. As usual, I am most appreciative of the help I received in planning and executing details of the meeting.

There is little to report from the two Schools in the Near East. The members of the staff of the Jerusalem School have been busy at their customary duties. Director Winnett has been occupied in exploring the area around H-4, a pumping station on the I. P. C. oil line from Kirkuk, for early Arabic inscriptions. He was assisted by an old friend of the Schools, Mr. Lankester Harding, and several members of the School staff. We look forward to an early report on the results.

Several new appointments have been made since the Spring meeting. The Trustees voted to appoint Dr. Allen O. Whipple Visiting Trustee Lecturer for the academic year 1959-60. Dr. Whipple served as Trustee of the Schools from 1949 to 1954. He retired recently from the medical staff of a large hospital in New York City after many years of distinguished service as a surgeon at home and abroad. One of Dr. Whipple's avocations is the history of medicine, particularly in the Near East Middle Ages. He will not be attached to the staff of either School; the appointment has been made to enable him to move around freely, basing his work mainly at the School in Jerusalem. He expects to do some research in the British Museum and the Vatican and, no doubt, will find it necessary to travel in the Near East in order to visit the sites of the medical schools of the Middle Ages. The staff in Jerusalem this coming year will doubtless have the privilege of hearing the first reports of his findings at the informal Sunday evening gatherings in the Director's house. Our visiting lecturers in the past have frequently made definite contributions to the scholarly life of the School and the community as a whole.

It has just been announced that the Director of the Baghdad School, Dr. Vaughn Crawford, representing the Metropolitan Museum on a joint venture, will join the University of Pennsylvania Expedition to Hasanlu (Iran) as Assistant Director. Dr. Robert H. Dyson, Jr., of Pennsylvania is Director, and another member of the expedition is Dr. George Dales, the Baghdad Fellow for this year, who will serve as photographer.

Dr. William L. Reed, the Executive Assistant to the President, is joining Dr. Pritchard at el-Jib. Mrs. Reed will remain in Lexington and will forward mail addressed to Dr. Reed's office.

I leave shortly to join, as Associate Director, the staff of the Cornell-Harvard expedition to Sardis in Turkey, for its second season. Professor George M. A. Hanfmann of Harvard will continue as Director. Most of the staff of last year will return. In addition, Mr. Alan Shapiro, a member of this year's graduating class in architecture at Cornell, will join the group as a Fellow of the American Schools. As many of you know, field architects are hard to find, and we all hope that Mr. Shapiro will find part of his future in field work.

My secretary, Mrs. Anne Otis, will be in Ithaca during the entire summer. She will take care of any business matters that need attention or refer them to the members of the administration who remain in this country.

A. Henry Detweiler

June 4, 1959

SPRING MEETING OF THE BOARD OF TRUSTEES

The spring meeting of the Board of Trustees was held at the Cornell Club in New York City beginning at 3:00 P.M. on Sunday, April 5, 1959. Present of the Trustees were Messrs. Albright (First Vice-President), Colt, Detweiler (President), Glueck, May, Phelps, Reynolds and Wilkinson; of the Associate Trustees, Mr. Cross, Miss Mowry, Messrs. Muilenburg and Stephens; in other capacities or by invitation: Messrs. Crawford (Director Baghdad School), Dentan (Chairman Jerusalem School Committee), Kramer (Chairman Baghdad School Committee), Pope (Director-elect Jerusalem School), Reed (Executive Assistant to the President), Mrs. Walton (Business Manager).

President Detweiler called the meeting to order and after calling the roll declared a quorum. It was voted to adopt as the agenda for the meeting the one prepared and distributed by the President. It was voted to approve the minutes of the meeting of December 13, 1958 as mimeographed and distributed.

The President reported on the present political situation in the Near East as it affects the work of the Schools. It is not now possible to carry on field work in Iraq, but the program of the Jerusalem School in Jordan continues without difficulty. It was reported that United States State Department officials have expressed an interest in using the services of the Schools in connection with the expenditure of counterpart funds for archaeological work. It was the spirit of the meeting that the Schools should assist where possible.

It was voted to receive the following institutions as Corporation Members:

Covenant College and Theological Seminary, St. Louis, Mo.
Lycoming College, Williamsport, Pa.

It was reported that there are now 105 Corporation Members.

Reporting in behalf of the Baghdad School Committee, Professor Kramer noted that, since the last meeting, the division of finds from Nippur has been completed. In return for financial contributions to the Expedition, Yale University received the tablets (the division completed in February 1959), and the Metropolitan Museum, other artifacts (the division completed on April 3, 1959 in accordance with letter and list of that date to be filed with Mrs. Walton). Professor Kramer indicated that the divisions have been satisfactory to all concerned, that some objects remain which will be available to Corporation Members in return for a financial contribution toward further field work, and that the procedure is an excellent one for disposing of finds and raising money for further work in the field. Professor Kramer reported also that Annual Professor Winnett has written to the effect that no work can now be undertaken in Iraq. Professor Braidwood has also written indicating that it might be necessary to change the scene of the survey of Near Eastern pre-history to Iran. It was voted that the Baghdad School Committee be empowered to shift field work from Iraq to Iran if this becomes necessary.

Professor Kramer stated that the Baghdad School Committee hopes that another season of work will be possible at Nippur in 1960-61, in cooperation with the Oriental Institute.

Reporting in behalf of the Jerusalem School Committee, Professor Dentan stated that the work of the Jerusalem School continues without difficulty under the able leadership of Director Fred V. Winnett. The proposed expedition to North Arabia has been cancelled because of inability to secure visas; instead there will be another expedition to H 4 in search of additional Safaitic inscriptions. The Committee, at a meeting on April 5, 1959, agreed on several appointments to the Jerusalem School for 1959-60 and 1960-61. It also approved the purchase of several items of equipment which Director-elect Pope will take with him to the School in May. Approval was granted for the installation of five metal doors at the School, on the recommendation of Director Winnett. The Committee recommended that the School property be maintained as it is, and that there be no sale of any part of the ground for construction of commercial buildings. Questions pertaining to a summer archaeological seminar were discussed, and it was voted not to undertake such a venture.

Another field expedition in cooperation with Pittsburgh-Xenia Theological Seminary, future work at Pella, and a proposal to handle the archaeological slides of the Palestine Archaeological Museum for members of the Schools were considered, but no action was taken. It was noted with pleasure that Professor Pritchard will go through with plans for another expedition at el-Jib this summer in cooperation with the Schools. An expedition to Petra in cooperation with the British School of Archaeology has been approved, at the request of Professor Philip Hammond; Director-elect Pope has been authorized to use $500 of the amount budgeted for archaeological work in this connection. It was noted with regret that Professor G. Ernest Wright will not, for personal reasons, be able to work as planned at Balata this summer. The Committee expressed the hope that the plans made for this year might be carried through in 1960.

It was voted to approve the report and to make the following appointments:

For 1959-60, Fellow and "Learner" on the Scrolls:

Mr. Willard G. Oxtoby, Princeton University, Princeton, N. J.

For 1960-61, Director:

Professor Oleg Grabar, University of Michigan, Ann Arbor, Michigan.

Annual Professor:

Dean Walter Harrelson, University of Chicago, Chicago, Ill.

Professor Albright reported for the Publications Committee and stated that the February issue of the BULLETIN has been delayed. A double volume of the *Annual*, containing reports of excavations at Gibeah, Petra and Ader, is ready for press. Dr. Glueck is working on *Annuals* which will contain reports of his work in the Negeb and at Khirbet et-Tannur and Tell el-Kheleifeh; work on the publications of the results of the first two seasons at Dhiban is in progress.

President Detweiler reported that a check for $1,000 has been received from Doubleday, March 31, 1959, in connection with the volume to be published which will contain articles from *The Biblical Archaeologist*. Of this amount, $500 will go to the general fund, and $500 will be held in reserve until the volume is published, at which time the various authors of the articles will be paid.

In behalf of special committees, Professor Albright reported that work on the publication of the work at Nimrud Dagh continues, and President Detweiler reported that the plans for another season at Sardis have reached an advanced stage, the expedition to be in the field from late June until mid-September this summer.

The budget for 1959-60 was discussed as mimeographed and distributed. The items of cash available, Jerusalem School, Baghdad School, Publications, Business Office and Administration were explained by Messrs. Detweiler, Dentan, Kramer and Albright. Following a discussion of each item, it was voted to approve the report as presented with minor amendments. It was voted to adopt the general budget as amended.

It was voted, due notice having been given in the announcement of the meeting, to amend Article VI of the By-laws to enlarge the Finance Committee by making the President and Treasurer members, in addition to three members appointed by the President. Mr. Reynolds commented on the advisability of having, as members of the Finance Committee, two persons residing in New York City, as well as the President and Treasurer. The President announced the appointment of Trustee Thomas W. Phelps as a member of the Finance Committee.

Professor Stephens requested that the Finance Committee take such action as may be required to show in each financial report, where endowment funds are mentioned, not only the current principal amount and current market value, but also the original amount of each such fund before the application of net gains or losses resulting from investment transactions. Following a discussion of the desirability of and the difficulty involved in the proposed method of reporting endowments, it was voted to recommend to the Finance Committee that it make a study of this problem and bring in a report at the next meeting.

It was agreed that the next meeting of the Trustees will be held on Monday, December 28 at 3:00 P. M. in New York City. President Detweiler announced that plans have been made to hold the following meetings on Tuesday, December 29: Luncheon meeting of School alumni and friends—12:30 P. M.; Corporation Meeting

–5:00 P. M.; Joint Meeting with the Society of Biblical Literature and Exegesis, nd the National Association of Biblical Instructors—8:00 P. M.
The meeting adjourned at 5:20 P. M.

WILLIAM L. REED,
Secretary *pro tem*

EXCAVATIONS AT SARDIS, 1958 *

GEORGE M. A. HANFMANN

Sardis, capital of Lydia, has long attracted the attention of scholars. Beginning with Cyriacus of Ancona in the fifteenth century, many illustrious travellers had visited the site, and some small scale digging had been undertaken at the temple of Artemis and in the Royal Cemetery of Bin Tepe (" Thousand Mounds "), which is located at the northern edge of the wide Hermus Plain some four miles to the north of Sardis. Some of these excavations were reported, mostly sketchily, others not at all.[1]

A major effort to do justice to this important and extensive site, effectively organized by Howard Crosby Butler, was undertaken by the now defunct American Society for the Excavation of Sardis from 1910 to 1914. The tremendous task of freeing the Early Hellenistic temple of Artemis in the side valley of the famous gold-bearing torrent Paktolos was accomplished, a survey of the general area of Sardis (but not of the Royal Cemetery) was made, and more than a thousand graves were opened, largely cut into the so-called Necropolis or Cemetery Hill, a precipitous ridge which forms the western flank of the Paktolos valley. Some work was done at Bin Tepe,[2] and a sounding northeast of the temple of Artemis, holding out promise of stratigraphy, was just getting underway in 1914 when the First World War intervened.[3]

The premature death of Howard Crosby Butler disrupted the enterprise. Theodore Leslie Shear, a member of the Sardis excavations in 1914, attempted to resume the work in 1922, only to be stopped by the Turkish-Greek War. Butler's plan of publication was carried on by his

* Other reports (with some different ill.): Fogg Museum, *Annual Report* (1957-8) pp. 14-18, 2 ill. With A. H. Detweiler, *American Turkish Topics* (Nov. 1958) 2-6, 4 ill. *Archaeology* 12 (1959) 53-61, 17 ill. Forthcoming: *ILN*, *Anatolian Studies*, *Istanbuler Mitteilungen*, *Dergi*.

[1] The history of previous exploration of Sardis is surveyed by H. C. Butler, *Sardis* Vol. I, Part 1 (Leyden, 1922) pp. 4-14. As part of the current Sardis project an archive on Sardis has been established at the Fogg Museum. Miss Margaret Golding has generously contributed her services for systematic collection of ancient and modern references. *A Preliminary Bibliography of Sardis* was issued in the fall of 1957 in mimeographed form. Records and materials from earlier Sardis expeditions are at Princeton University and the Metropolitan Museum of Art. The writer wishes to thank Mrs. Floyd C. Harwood (formerly Mrs. T. L. Shear) for the loan of a collection of ancient sources made by the late T. L. Shear.

[2] Cf. G. M. A. Hanfmann, " Prehistoric Sardis," *Studies D. M. Robinson* I (1951) p. 161, n. 6; the excavations by George Dennis, for instance, were never reported, although some interesting objects came to the British Museum.

[3] Cf. G. M. Hanfmann, *AJA* 49 (1945) pp. 570 ff. and *Studies D. M. Robinson* I (1951) pp. 174 ff.

associates, though not completely. Still, such volumes of the Sardis Publication as had appeared constituted until now almost the sum total of our knowledge of the Lydian and later periods of Sardis.[4]

Having been entrusted by George Henry Chase with the publication of pottery from the first Sardis excavation, the writer had been trying for several years to revive interest in Sardis. In 1957, through the enlightened interest of President John D. Barrett of the Bollingen Foundation and the vigorous action of President A. Henry Detweiler of the American Schools of Oriental Research, plans for a new Archaeological Exploration of Sardis were drawn up, to take place as a cooperative project of the Fogg Art Museum of Harvard University and Cornell University under the auspices of the American Schools of Oriental Research. The Schools act as recipient and administrator of a grant from the Bollingen Foundation and guarantee the standards of the project; the Fogg Museum and Cornell University are the executive institutions which contribute a share of funds.

Warmest thanks are due to President Barrett and the Board of the Bollingen Foundation, to President Detweiler and the Trustees of the American Schools of Oriental Research, to President Deane W. Malott of Cornell and Prof. John Coolidge, Director of the Fogg Museum, for their help. The Fogg Museum is indebted to individuals and foundations who by their generosity to Harvard's share of the enterprise enabled the expedition staff not only to proceed but also to enlarge the scope of the first campaign.

From the inception of the project Bay Kamil Su, Director General of Antiquities in Turkey, gave us the benefit of whole-hearted cooperation. An agreement was reached by which an excavation house has been constructed jointly with funds contributed by the Ministry of Education and the Sardis Expedition. We owe a debt of gratitude to our energetic Commissioner Bay Kemal Ziya Polatkan, Director of the Museum of Manisa, and to the Assistant Commissioner Dr. Baki Öğün, also to His Excellency the Vali of Manisa, to the Director of Education Bay Ferit Camoğlu, and others too numerous to mention who aided the enterprise. It is a pleasure to record that Ambassador Fletcher Warren, Mr. John Goodyear, Counselor of the Embassy, as well as the American Consul in Izmir, Donald Blakeman Eddy, and various members of the American community in Izmir contributed their interest and help.

The advance detachment of the expedition arrived in Turkey late in May and set up quarters early in June at the primary school and in two houses of the village of Sart-Mustafa. Digging began on June 20 and continued through August 30; the work of recording and storage continued until September 9. Six areas were sounded or excavated: Trench

[4] *Sardis* I: 1 (1922) *The Excavations*; H. C. Butler, II, *The Temple of Artemis* (1925); C. R. Morey, V: 1, *The Sarcophagus of Claudia Antonia Sabina* (1924); VI: 1 and VI: 2, E. Littmann, W. H. Buckler, *The Lydian Inscriptions* (1916, 1924); VII: 1, T. L. Shear, *The Architectural Terracottas* (1926), W. H. Buckler and D. M. Robinson, *Greek and Latin Inscriptions* (1932); XI: 1, H. W. Bell, *The Coins* (1916); XIII: 1, C. D. Curtis, *Jewelry* (1925). Not published: V: 2 (sculptures other than sarcophagi); Glass; Figurative Terracottas; Bronzes and Other Metal Objects; Pottery. For T. L. Shear's excavation, cf. *AJA* 26 (1922) pp. 389-409 and 31 (1927) pp. 19-25.

South of the Temple of Artemis (S), Building (L), Cemetery on Kagirlik Tepe (KG), Byzantine Shops and Building (B), Building (CG), and finally the "House of Bronzes" (HB) and the "Lydian Shop" (LS).

The staff was as follows: George M. A. Hanfmann, Harvard, Field Director; A. H. Detweiler, Cornell, Field Adviser and Chief Architect;

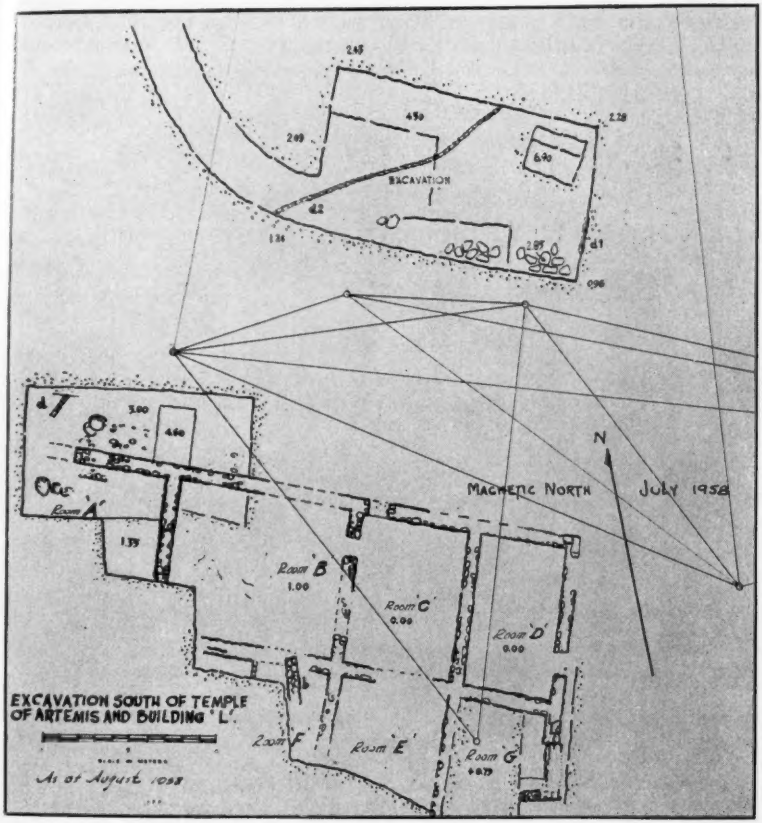

FIG. 1.

Professor Thomas H. Canfield, Cornell, and Professor Marion Dean Ross, University of Oregon, architects; Mr. Donald P. Hansen, Harvard, archaeologist; Mr. John Washeba, Harvard, conservator; Dean Sherman E. Johnson, Church Divinity School of the Pacific, epigrapher and archaeologist; Mrs. Catherine S. Detweiler, numismatist; Mrs. Ilse Hanfmann, recorder; and as volunteers for parts of the campaign, Mrs. Jean

Johnson, Church Divinity School of the Pacific, and Miss Lenore Keene, American Girls College, Izmir, assistant recorders; Mr. Arthur Steinberg, Harvard, archaeologist. Mr. Güven Bakir was employed as draftsman. Professor Müzaffer Şenyürek, University of Ankara, served as consultant in anthropology and Professor Louis Robert, Institut Français d'Istanbul, as consultant in epigraphy. High praise is due our Turkish foremen and workers, who speedily grasped the requirements of a type of work new to them. Some of them demonstrated a natural aptitude as diggers and all worked with interest and enthusiasm.

FIG. 2. Trench south of the Artemis temple, viewed from the west. On the right is the Byzantine drain, Level II, III, and the pit in Level IV. Background: temple of Artemis and acropolis.

TRENCH SOUTH OF THE ARTEMIS TEMPLE

Our first trench (S; Fig. 1, top) was started within the temple precinct, from Butler's "Hellenistic-Lydian" level south of the temple. We laid it to the south of and just outside the 10-meter strip along the southern flank of the temple which had been sounded previously by Butler.[5] Levels were taken from Butler's zero point on the floor of the south pteroma of the Artemis Temple. This point was established as being

[5] Cf. *Sardis* I, pp. 42 f., for the "Hellenistic-Lydian" level II, pp. 134, 145, for Butler's excavation south of the temple, and Plan III, plan of the Artemis precinct.

138.37.80 m. above sea level by a team of surveyors working under Ali Sait Tütün, Director of Cadastral Survey, Salihli.[6] The trench covered a lower area which was reasonably level (1.99–2.45 m. below zero) and a higher strip some three meters wide which was part of one of the terraces levelled off by Butler for the use of his railway (1.24–0.96 m. below zero; cf. Fig. 2).

Donald P. Hansen was in charge of this section, which was excavated between June 20 and July 8. Below a mixed surface level (I, 0.96–2.36 m.), we came upon a torrent bed with two major strata of stones, pebbles and gravel (II, 2.36–3.79 m.; III, 3.79–4.47 m.). Lying within Level I were two Byzantine terracotta drains (marked *d* 1 and *d* 2 on plan Fig. 1; *d* 1 also seen in Fig. 2), which belong to the time when the Temple of Artemis was converted into a large reservoir.[7] Level II contained a number of large river stones. Those left as found are shown in Figs. 1 and 2. Similar piles were encountered in the northeast corner and in the center of the trench. Under Levels II and III, hardpan devoid of artifacts was encountered. A pit dug into this Level IV (Fig. 1; Fig. 2, northeast corner) to a depth of over 2 meters (4.47–6.90) failed to reveal any signs indicative of change. Sherds found in the torrent bed are predominantly Lydian and range from the Geometric period through the sixth century B. C.

A Lydian graffito was found at the top of Level II (at 2.65 m., along south side); it should be read *ylam*, according to Professor J. Puhvel. From the very bottom of Level III (4.40 m.) came a terracotta die. All objects and sherds found were much worn, carried to their present location by the torrent. Neither stratigraphy nor the finds gave any indication of the existence of an archaic stratum of the time of Croesus such as had been assumed by Butler.[8]

[6] For Butler's datum of zero, cf. *Sardis* II, p. 18 and Atlas Pl. 1. It should be noted that the levels of contour lines on Butler's plan of the Temple Area (*Sardis* I, Plan III) are calculated not from sea level but from an *arbitrary* point in the bed of the Pactolus. Cf. *Sardis* I, p. 39, and the notation on Plan II, "datum = 35 m. above sea level," which means that Butler's "100" is 135 m. a. s. l; and XI: 1, p. x, "levels computed upwards from a *fixed point* in the bed of the Pactolus far below the deepest point the excavations are ever likely to reach."

[7] Cf. *Sardis* I, p. 44, Ill. 31-33, pp. 52, 63 f., 74. *AJA* 15 (1911) p. 450. *Sardis* XI: 1, p. ix. H. W. Bell comments on the lacuna in the coin sequence between 668 and 867 A. D. as synchronizing with the time when work on the reservoir was finished. The smaller drain (Int. Dm. 0.09 m.) which crossed the trench diagonally was completely preserved; the larger drain (Int. Dm. 0.22 m.) in the southeast corner had been cut through by Butler.

[8] *Sardis* I, pp. 65, 74 f., 148. *Sardis* II, pp. 23, 140. *Sardis* XI: 1, pp. v, vi, the only coin of Croesus "deposited or lost during the building of the existing basis"; no coins found under the base of the eastern cella. Butler had assumed that sandstone blocks used in the foundations and in the statue base belonged to the time of Croesus, to which he would also assign the so-called "Lydian Building" west of the temple, *Sardis* I, pp. 46, 129, Ill. 35. Actually, no definitely datable material was found in association with the sandstone masonry, which might as well belong to a temple of the fifth century. From Butler's remarks, *Sardis* I, pp. 76, 129, it is clear that he too encountered riverine deposits in his deep soundings within the temple.

BUILDING 'L'

The second trench was located on the terrace above and to the south of the first trench. Here Butler had partly cleared three rooms (B, C, D) of a structure which is herein designated as Building L.[9] From July 7 to August 23, Dr. Baki Öğün excavated units A, F, E, G and made deep soundings within rooms A and B and along the north façade (Fig. 1). Levels were taken from Butler's zero point. The terrain sloped slightly westward and rose to a crest (+1.35, i.e. above zero point) in the southern part, to fall again to the present course of a torrent bed which comes down from the Acropolis ridge.[10] The southwestern part of this building has been destroyed, apparently by the action of this torrent in medieval or relatively modern times.

The "mortared rubble" technique of its walls identifies Building L as Roman. As far as preserved, its maximum dimensions are ca. 30 m. east-west by ca. 18 m. north-south.[11] The northern and the eastern wall appear to be the original external walls. The rooms are arranged in two parallel rows. Counting from northwest, the rooms of the northern sequence were numbered A, B, C, D; those of the southern F, E, G. The plastered floors were not on a uniform level but rose slightly from west to east. Two superposed floors were observed in A (1.50; 1.95 m.), B (1.00; 1.20 m.) and D (0.00; 0.30 m.).[12] Traces of greyish white and occasionally painted (red, blue) plaster still adhered to some of the walls in A and C. Doors leading into the structure were observed in rooms D and G and, less certainly, in C; doors communicating between rooms C and B and less certainly E and F were also found. Traces of rebuilding appear in the southern part of the east wall of G, where a wall of slightly different orientation underlies the later construction.

On the evidence of coins (see below), the building was in use well into the fifth century A.D. Its initial date remains uncertain. We excavated to below the foot of the northern wall in front of rooms A and B (Fig. 1) but the few sherds found in immediate association with the wall were equivocal. Since the building shows no trace of early damage by earthquake and since the mortared rubble technique resembles that used in the repair of the Temple of Artemis, it is a plausible assumption that building 'L' was constructed after the earthquake of 17 A.D.[13]

The southern part of the structure was damaged by boulders can-

[9] These three rooms are shown without further designation in *Sardis* I, Plan III, lower left corner, between the "95" (west) and "100" contour lines. No reference is made to them in the text.

[10] *Sardis* I, Plans II and III. The configuration of the terrain has been changed since 1910 by Butler's dumping, which has pushed the edge of the bed of the Pactolus out to west. Cf. *Sardis* II, Ill. 1.

[11] A pit dug on the other side of the ridge south of and in line with the eastern wall of the building L failed to reveal any southward continuation of the building.

[12] Levels *not* preceded by plus sign are understood to be below the datum line (zero): those prefaced by a plus sign are above the zero mark.

[13] Cf. *Sardis* I, pp. 111 f. and Plan III, 2 for the Roman repairs to the Artemis Temple. The wall of a likewise unidentified period but earlier than the second century A.D. in the Asclepieion at Pergamon is similar in technique to the walls of 'L.' The north wall of 'L,' preserved to a maximum height of ca. 3 m., was faced with mortar; its foundations seem to go ca. 1.80 m. below floor level.

nonading into it (Fig. 1), perhaps in the late fifth century A. D. A Byzantine drain (marked *d* in Fig. 1) found northwest of the tip of the northern wall (at 2.70 m.) appears to belong to the same period as the drains observed in the trench south of the Artemis Temple. Traces of heavily damaged Byzantine burials around the western tip of the north wall of room A may belong to a cemetery previously encountered by Butler.[14] A Byzantine re-occupation of rooms F and E is attested by a wall in F (marked *b* in Fig. 1) and a floor in E (+ 0.30 m.). It is dated by coins of the eleventh to early thirteenth century found in E (see below).

Soundings in the eastern part of the trench along the northern wall of room A and within room B revealed a level of ashes and sherds ("floor," at 1.70 m. in B and Level IV in the trench north of the north wall). It seemed to rise on a slope in the eastern cut of the trench (2.80-2.30 m.) and was not associated with any definite structural remains. Hence it may represent some open area; for instance, a place where sacrifices were brought. It is of considerable importance as the earliest definite indication for the use of this part of the sanctuary. A sherd of fine Attic black-glazed palmette ware provides a date not later than 400 B. C. A pit dug to a depth of ca. 2.00 m. (4.60) below this ash level revealed again a torrent bed and virgin soil.[15]

Our tentative conclusion is that prior to the fifth century B. C. torrents were racing through the southern part of the sanctuary. Their beds were filled in at some time during the fifth century. In his soundings within the Artemis temple, Butler too encountered a river bed underneath the center of the temple.[16] The question arises whether the so-called "Lydian Building," taken by some scholars to be the altar of an earlier temple, and the large sandstone masonry re-used within the temple can be assigned to the time of Croesus as Butler had suggested.[17] It is arguable that these traces of an earlier structure should be assigned to the fifth century B. C., the time when Sardis was being rebuilt after the disastrous fire and destruction inflicted upon it by the rebellious Ionians in 499 B. C.

If, as appears likely, the entire terrace of the present Artemis precinct was first created in the fifth century B. C., was there an earlier sanctuary of Artemis? And where was it? Archaic terracotta revetments of ca. 570 B. C. may belong to a small early shrine. These were found, re-used, on a terrace across the Paktolos,[18] opposite the Artemis precinct. Other archaic finds, made by the first Sardis expedition, such as the supposedly

[14] *Sardis* I, pp. 134, 145.

[15] The two major strata of the torrent bed at ca. 2.80-4–4.60 m. seem to correspond to those observed in our first trench at 2.40-4.50 m.

[16] *Sardis* I, pp. 76, 129.

[17] *Sardis* I, p. 46, Ill. 35, Plan III; II, pp. 23 ff., 77 ff., 101, so-called "archaic sandstone basis." H. Schleif, *AM* 58 (1933) p. 207, argued that the "Lydian Building" was an altar.

[18] The piece which is relevant showed a goddess with lions (Artemis? or Cybele?), then a Minotaur scene. T. L. Shear, *AJA* 27 (1923), p. 133, Pl. 2 and *Sardis* X: 1 (1926) p. 13, Pl. 3. For the latest discussion cf. Hanfmann, "Lydiaka" *HSCP* (1958) pp. 65, 80.

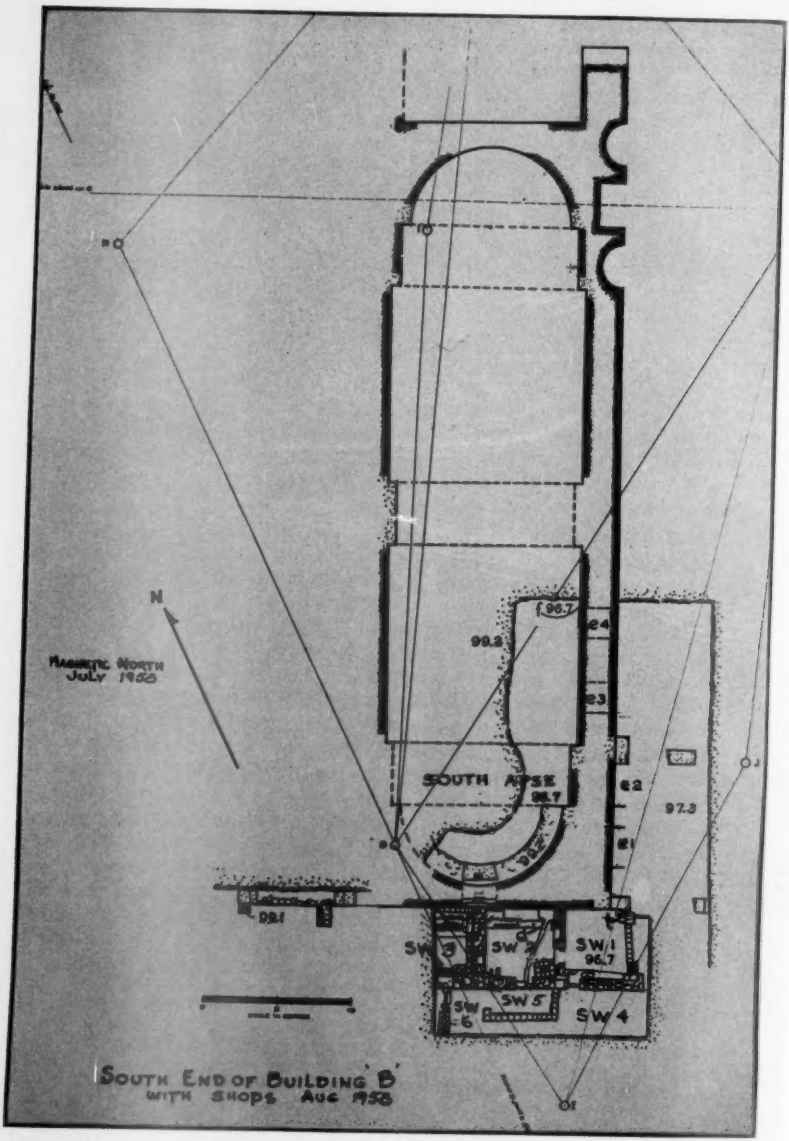
N
MAGNETIC NORTH
JULY 1958
98.2
96.7
C4
C3
C2
C1
97.3
SOUTH APSE
98.7
98.1
SW 3
SW 2
SW 1
96.7
SW 6
SW 5
SW 4
SOUTH END OF BUILDING B
WITH SHOPS AUG 1958

FIG. 3.

archaic marble lions and eagle,[19] give no definite indication, as they were not found in their original position. The small, worn early sherds, some of which Butler found in the fill (and the torrent bed) among the foundations of the Artemis temple [20] were probably carried down from an area higher up on the western flank of the Acropolis ridge. If a Croesan temple to Artemis existed, we do not know where it was.

CEMETERY ON KAGIRLIK TEPE

In our quest for early remains, we next sounded a flat-topped hill northeast of the Artemis precinct, known as Kagirlik Tepe ("Bamboo Hill"). Here Donald P. Hansen made a stepped trench, ca. 13 by 3.5 m., working down from the western scarp of the hill. The bench mark on top of the hill is at 188.98.80 above sea level. Here a Roman cemetery followed the slope of an earlier hill. Out of twelve graves observed in the cut, three were carefully built of tiles to form rectangular caskets and then covered with large stone slabs; the others consisted of tiles placed edge to edge to form a shelter triangular in section. Infiltration by water and disturbance by grave robbers account for the poor preservation and scanty finds. Even grave H, which at first sight appeared undisturbed, proved to have been opened. Although robbed, this, the only one of the brick-built graves which we excavated, yielded two datable objects: a glass bottle which occurs in the range from the second to the fourth century A. D. and the fragment of a Roman lamp of the second century A. D.[21] Underneath the burials there was only clayey virgin soil. According to the agreement with the land owner, this sounding was filled in again.

BUILDING 'B'

To advance our avowed aim of tracing the urban development of Sardis through all phases of history, we began work on two large structures in the Hermus Plain, the walls of which were still visible above ground. The huge Building 'B' has long attracted the attention of travellers who saw in it variously the Palace of Croesus, a Roman gymnasium, or a Roman bath.[22] It is located some 200 meters east of the modern bridge by which the highway from Turgutlu to Salihli crosses the Paktolos, and just south of that highway. The building is ca. 122 m. long and 18.4 m. wide. It consists of two apsidal halls and an oblong central unit aligned on a "north-south" axis (Fig. 3). Actually, the axis runs NNE to SSW, but for convenience we shall speak of "north"

[19] T. L. Shear, *Art. Bull.* 3 (1931) pp. 127 ff. G. M. A. Richter, *Met. Mus. Cat. Greek Sculpture* (1954) No. 6, Pl. 9.

[20] *Sardis* I, p. 76. *D. M. Robinson Studies* I, pp. 170-174, where I was accepting on faith the existence of an archaic temple.

[21] The glass bottle resembles O. Vessberg, "Roman Glass in Cyprus," *Opuscula Archaeologica* 7 (1952) pp. 131 f., Pl. 7: 11-12. The lamp handle is like Broneer Types XXIII-XXVII, 50-200 A. D., according to D. G. Mitten.

[22] Butler, *Sardis* I, p. 32, Ill. 18. The central part is mis-drawn on Butler's survey map. The course of the modern highway built in 1952 diverges slightly from that of the old highway. M. Schmidt, *AM* 6 (1881), p. 151 had suggested that this might be a "magnificent gymnasium complex of the Roman period."

and "south." The construction of 'B' features piers of limestone and marble masonry linked by strong walls of rubble with bonded ("lacing") brick courses.[23] Numerous arches of radially set bricks arranged in double-voussoirs with keystones of limestone appear in the lower story (Fig. 5). The same form is used in the central window of the south façade (Fig. 4).

Under the direction of Thomas H. Canfield, the southern façade of B and about two-thirds of the internal south apse of the southern hall were traced between June 30 and August 30. We also freed the first four bays of the long eastern wall (Fig. 5) beginning at the southeast corner. The first two arches (or niches resembling those seen further north in the unexcavated part of the east side) were carefully blocked up in antiquity. They may have been intended to lighten the large corner piers and economize on the masonry required, a suggestion advanced by A. H. Detweiler for the niches and recesses at the north end (Fig. 3). The bench mark with the (arbitrary) datum of 100 was established on a concrete block at point B of the survey figure at the northern apse of the north hall. This point is 115.10.85 m. above sea level.

A semicircular platform, 1.30 m. wide and 2.32 m. high follows the course of the south apse. In its center, standing against the upper part of a window, there came to light an inscribed base for a statue of the emperor Lucius Verus (161-169 A. D., Fig. 4; cf. below). The statue base is unfinished at the sides and at its lower front because the cement and the marble slabs with which the platform was originally revetted would have covered the unfinished parts. Considerable remains of this careful surfacing are seen on the top of the platform where some small marble fragments remain *in situ*; the white marble footing of the platform was found *in situ* at its northeast corner.[24] Other fragments of yellow marble revetment still adhering to the cement of the walls were found in the corner where the eastern pier of the apse adjoins the wall. Detweiler has proposed that the platform was probably intended for statuary.[25] Indeed, the use of an apse for an imperial shrine, an Augusteum, may be paralleled, for instance in the Basilica Ulpia of Trajan.[26]

A pit dug just west of the northern pier of arch *e* 4 (at *f* in Fig. 3) within the building revealed (at 96.75) the well made floor with a heavy pebble base covered by a thick layer of red cement which in turn supported a marble pavement, perhaps of *opus sectile*. White and yellow marble as well as a black stone were used in the pavement [27] and revetments. Altogether the evidence is conclusive that originally the interior of 'B' was resplendent with revetments of many-colored marbles. The

[23] Internal length of South Hall, 49.50 m.; width 13.50 m. Thickness of walls, 2.70 m. Internal length of Central Hall, 17.80 m., width, 12.00 m.

[24] It is possible that the platform is later than the building itself; the floor was broken through for its construction.

[25] In his Report to the VIIth International Congress of Classical Archaeology.

[26] Atrium Libertatis in the apse: cf. S. B. Platner and T. Ashby, *Topogr. Dict. of Rome* (1929) p. 242. As David G. Mitten pointed out in a seminar report, the hall of the gymnasium of Pergamon, dedicated to "the Emperors," possibly Marcus and Lucius, is a hall with two apses like building "B." W. Dörpfeld and H. Hepding, *AM* 32 (1907) pp. 200 f., 347 f., No. 99, Pls. 18 f.

[27] Some blue and green mosaic cubes were found, but their position is uncertain.

FIG. 4. Base of Lucius Verus in the South Apse, viewed from the west.

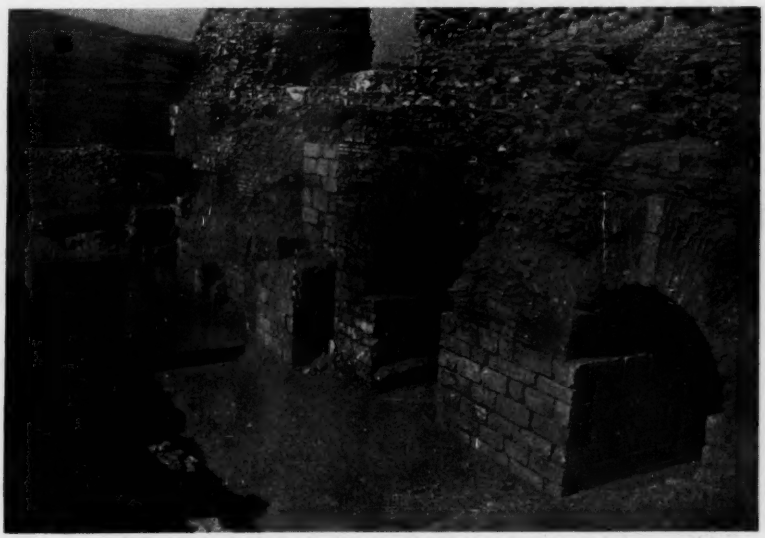

FIG. 5. East side of "B," arches e 1-4. Byzantine Shops begin at south end.

fate of these marble slabs and other architectural features of marble is made melancholically clear by strata of burned lime and ashes which we observed in the collapsed fill within the south hall. They come from lime kilns which began to operate in 'B' not later than the Middle Byzantine era and continued into modern times.[28]

Immediately above the floor of 'B' we found a heavy deposit of ashes, coal, and cement and marble disintegrated by fire. Eventually, it may prove that the interior of 'B' was destroyed by a conflagration.[29]

Some parts of the walls are still standing to a height of nine meters above the floor (96.7), for instance, at the southeast corner (105.7). As the structure is buried to depths varying from 3 to 6 meters above the floor level by the collapse of its vaults and walls, its excavation is an enterprise of some magnitude. To the east and west 'B' is adjoined by two large rectangular areas in which are visible various structural remains. Excavations along the east side of 'B' indicate that at least at one period a system of piers took off from 'B' to continue into the eastern area (Figs. 3, 5). Traces of white plaster on the blocked up arch *e* 1 also argue that this part of building 'B' was within a building. We look forward to continued study of this building by Canfield.

The inscription on the statue base of Lucius Verus (Fig. 4) contains perhaps a hint that 'B' was part of a gymnasium complex. In a curiously circuitous way, the dedicant, Claudius Antonius Lepidus, is described as one who "*ex arches* took care of the administration of the gymnasium," presumably as gymnasiarch. The plan of the complex with a long central building is unusual for an Asiatic gymnasium but only further excavation can show whether 'B' was, in fact, part of a gymnasium. In any case, by virtue of its established date prior to 166 A. D., the great structure will claim considerable attention as an important Roman example which combines piers in Hellenistic masonry technique with walls featuring "Proto-Byzantine" lacing brick-courses.[30]

BYZANTINE SHOPS

In trying to trace the southern façade of 'B' we came somewhat unexpectedly upon a row of Byzantine shops (Fig. 3, SW 1, 2, 3), which had been built against the south façade of 'B' at a time as yet not exactly determinable. Of these we excavated two completely (SW 1, SW 2) and one (SW 3) partially. Areas SW 4 and SW 6 have not so

[28] Schmidt, *loc. cit.*, noted traces of lime kilns. Butler had observed that in the Artemis Temple the first evidence of intensive lime-burning appeared in the late sixth and early seventh century A. D. and that there were two later levels of lime kilns. *Sardis* I, pp. 25, 67; *Sardis* II, p. 12.

[29] The ash and charcoal level was observed directly above the floor at the northern pier of arch *e* 4 (*f*, in Fig. 3) and above and below the floor level at the northeast corner of the apsidal platform (96.7 in Fig. 3), where even the stones of the inner platform show traces of fire. The alternative is to assume that lime burning was started while the building was still reasonably complete. The ash layer is located *under* the first fall of brick and rubble which comes from the collapse of the ceiling and walls. So far no objects have been found which would help to date the ash layer.

[30] On this problem cf. J. B. Ward-Perkins, *PBSR* 23 (1955) pp. 115-123. F. W. Deichmann, *Studien zur Architektur Konstantinopels* (1956) pp. 28 ff.

far revealed any definite structural features and may have been open. Area SW 5 is a flimsy, porch-like construction, largely of re-used tiles and brick, attached to shop SW 2. That the shops are later than Building ' B ' is shown, apart from their contents and the use of spoils in their walls, by the way in which the wall between SW 2 and SW 3 runs up against the central window of the south façade of B, which it must have blocked when preserved to full height.

This sector seems to present evidence of at least three periods. A stone channel and drain " *d* " which we found in Room SW 2 and SW 1 (Fig. 3) and probably the stone arch in the wall between SW 2 and SW 3 under which this drain passes, are built of carefully cemented river stones and make the impression of Roman construction.[31] The southern piers of the shops SW 1–SW 3 and lower parts of the walls are built of re-used masonry and spoils and seem earlier than additions and repairs of brick in the upper walls. The latter feature niches, perhaps intended as cupboards (Room SW 3, in northern part of east wall; Room SW 2 in southern part of west wall and northern part of east wall). Only one floor level, made up largely of earth, and the water channels which belong with it, can be safely claimed for Rooms SW 1 (96.7) and S W2 (96.6). In Room SW 3, however, two floors were observed, one at ca. 97.3, the other at 96.7. The 96.6 floor of SW 2 is dated by a small hoard of coins of Heraklios (610-641 A. D.) which was sealed between the upper and the lower of the two layers of tiles in the southeast corner. Indeed, although some 300 coins were found in the shops, so far none appears to be later than the reign of Heraklios. The conclusion suggests itself that the shops were abandoned during the Persian invasions under Heraklios.[32] As to the earlier periods, a broken up marble statue of Ganymede or Attis[33] which had been intentionally defaced was found below the floor of SW 2, the largest fragment in the northwest corner, at 95.8. The statue is of the second century A. D. It may establish the drain " *d* " as being earlier and the first floor of the shops as later than that period.

The coins found tend to fall into two periods: the late fourth and early fifth century A. D. and the later sixth and early seventh. Since the decline of gymnasia *qua* gymnasia falls into the fourth century,[34] it would not be implausible to assume that ' B ' was abandoned as a gymnasium in the late fourth century A. D. and the shops built at that time. Among the spoils may be noted a palmleaf-acanthus capital of a type well known in the second century A. D.[35] It was standing at the entrance to SW 1, where it may have served as a sales desk or just as a

[31] Top of keystone 97.49; top of drain 96.1.

[32] No information from literary sources appears to be available for the region of Sardis. It is interesting to note that a bag with 216 Byzantine coins, of which 203 dated in the early years of the reign of Heraklios, was found in the temple of Artemis. H. W. Bell assumed that these were " the savings of a laborer employed in quarrying stones from the abandoned shrine." Apparently there too something happened in the year 615 A. D. which made the putative laborer abandon his savings. *Sardis* XI: 1 (1916) p. viii.

[33] Cf. note 71.

[34] A. H. M. Jones, *The Greek City from Alexander to Justinian* (1940) p. 253.

[35] J. B. Ward-Perkins, *JRS* 38 (1948) pp. 66 ff., Fig. 11, has a discussion of this " lotus-and-acanthus type," with examples from Pergamon, Smyrna, and Ephesos.

seat. A marble seat from a Roman latrine (marked "*t*" in Fig. 3) stands in the northeast corner of the same room. This probably came from the latrine of the gymnasium.[36]

Great accumulations of charcoal, animal bones, and shells, especially near the arch between Rooms SW 2 and SW 3 suggest that at some time this arch was converted into a stove or oven; a smaller hearth was also found in the southwest corner of Room SW 2. Together with the numerous though poorly preserved glass goblets and pottery they provide an indication that these "shops" may have been restaurants or bars. Many fragments of window glass were found, some of them apparently from round-headed (arched) windows.[37]

During the last week of digging we traced the northern wall of the shops sufficiently to show that they extend westward beyond the line of the west wall of B. A marble basin seems to pre-suppose a floor level at ca. 98 m. The shops SW 1-3 immediately south of B which we excavated in 1958 were smashed by debris falling from the south wall of that building. We hope that the shops to the west may be better preserved.

BUILDING 'CG'

In a low-lying part of the plain, about a mile from Building "B," two parallel walls of large limestone masonry were noted by Butler, who suggested that they might belong to a city gate through which the famous Royal Road of the Persian kings entered Sardis from the east.[38] The direction of these two walls is north-south. Four courses of the eastern wall were visible before excavation, reaching to a height of 3.5 m. above ground. The distance between the two parallel structures at that level was ca. 14 m.

Excavation of the eastern structure was begun in 1958 under the direction of M. D. Ross, assisted by S. E. Johnson and others, and lasted from June 30 through August 20. The surface at the beginning of excavation varied largely from 103.98 to 104.40 m. along the west face, the levels being measured from a datum line of 100. placed at the top of the impost course of the building. The work entailed considerable difficulties, as at various times in its history mighty limestone blocks, weighing up to two tons, had crashed down from the structure, coming to rest in soft, largely alluvial earth and pebbles.

As far as excavated, structure CG consists of an oblong which is adjoined at its north end by a hemicycle. The maximum known length is 34 m., the length of the oblong 29 m.; its width, including piers, is ca. 9 m. (8.7) at the south face, 7 m. elsewhere; the width from east to west face somewhat over 5 m. (5.25). It is built entirely of a soft limestone, much subject to weathering. Its eastern front (Fig. 6) displays

[36] Cf. the great public latrine attached to the Vedius gymnasium in Ephesos. J. Keil, *Führer Ephesos* (1958) p. 53, Fig. 27.

[37] A note on the glass found in 1958 will appear in the *Journal of Glass Studies* published by the Corning Museum.

[38] *Sardis* I, p. 30 and Ill. 18. It should be noted, however, that "CG" does *not* lie in the line of Byzantine city wall but to the east of it. Plan I of the same volume shows the location more correctly. The south end of the structure is 84 m. north of the modern highway.

five piers which project 1.20 m. beyond the face of the wall. The western front shows only one large pier which projects ca. 2.20 m. beyond the west face and ca. 1.30 m. beyond the south face. Four recesses open from the east face, and three from the west face. On the east side, starting from the south, a long barrel-vaulted tunnel, ca. 6.5 m. long and 2.10 m. wide, leads nearly across the structure. It was excavated to 1 m. below impost course (99 m.); the full height is as yet unknown. There

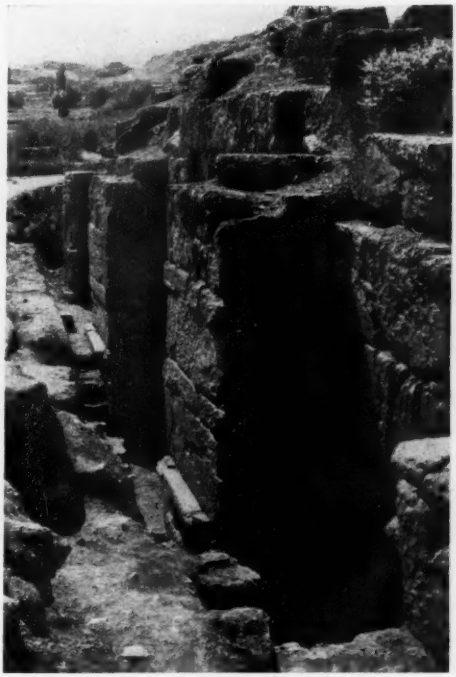

FIG. 6. "CG," showing the east side after excavation.

follows a barrel-vaulted recess ca. 1.32 m. deep and 4.10 m. wide;[39] it communicates through a somewhat asymmetrical door spanned by a monolithic lintel (3 m. long) with the semi-circular half-domed recess of the west side (maximum depth ca. 3 m., widest span, ca. 4.80 m.).

The so-called "Main Arch" consists of two chambers; the western is barrel-vaulted, the eastern (Fig. 7) spanned by an arch. They communicate through a door, spanned by a smaller arch. The width of the chambers is nearly 6 meters (5.74), their clear height approximately

[39] Height of arch from impost (100) to top 3.25 m.

4.05 m. The width of the symmetrically placed door is 2.55 m., clear height ca. 3.50 m., depth nearly 3 m. (2.85) for the western, ca. 1.35 for the eastern chamber.[40] The next recess from the east side is again barrel-vaulted and again communicated with a half-domed, semi-circular recess on the west side. It was only 2.20 m. wide and was not completely excavated; its semicircular western counterpart is still largely underground.[41]

FIG. 7. "CG," showing east chamber of Main Arch during excavation. Byzantine brickwork is seen in lower part of arch.

The hemicycle to the north, exposed to a depth of ca. 2 cm. (102.15–ca. 100), came to light during the last days of excavation and has not been fully explored. So far, one opening, either a door or a window blocked up with rubble, can be seen at the northwest end, and crowns of arches have begun to appear.

The southern part was excavated to slightly below the 100 level; on the north end, however, only the 101 level was reached.

We sought to clear the "Main Arch" in the hope of reaching a road level. This proved illusory. Only secondary use by Byzantines was marked both in the eastern and western chambers. Going below a "floor" of spoils (at ca. 98.5) in the eastern chamber, we encountered, some 6 m. below surface (at 97.80), the crown of an arch located below

[40] Floor of West Chamber, ca. 98.50; threshold of door, 98.80. A Byzantine floor of east chamber was also apparently at ca. 98.5 m.

[41] Excavated to 6th voussoir from center, ca. 101.5-100.6 m. level.

the center of the "Main Arch."[42] Thus either a basement story or an entire first story lies yet below.

Nothing definite can yet be said about the date or purpose of the structure. A. H. Detweiler observed that the multiplicity of arches and recesses is suggestive of a nymphaeum. Two low rectangular openings (western, .52 m wide, .4 m. high; eastern, .35 m. wide, .66 m. high) leading from the south face into the vaulted tunnel, a similar opening from the east chamber of Main Arch to the north (at 96.8 m. level, width .3 m., full height unknown), and a semi-circular vertical cutting (D. 0.20 m.) to accommodate a waterpipe[43] in the center of the hemicycle speak in favor of this assumption. Numerous fragments of terracotta water pipes were found but none *in situ*.

Something can be said about the later history of 'CG.' A series of levels with light deposits of grey ashes west of the "Main Arch" (from 101.5 down) seems to indicate casual camping in fairly recent times. Several heavier ash levels followed (from 101.20); below these were two marked strata of charcoal, lime, and a slag-like substance.[44] A large pottery basin (D. 0.85 m.) found in the west chamber at 99.8 contained a piece of textile (sackcloth?). The lower of these two strata seemed to belong with a more important transformation during which the west chamber of Main Arch received an interior of brick and plaster, the door was walled up with brick and rubble, and a slight wall (0.5 m. wide, 0.4 m. high) was built of bricks and spoils just to the west of the chamber. A red cement floor belongs with it (98.50). It seems that some kind of industrial establishment existed here. Presumably at the same time, virtually all openings—that at the end of the hemicycle and the doors between the east and west recesses—were blocked up with rubble and mortar. Buttressing piers composed of rubble were built against and around the projecting masonry piers of the east side.

Strong riverine deposits along the east side suggest the reason. They begin ca. 60 cm. below the modern surface and continue for 4 m. in depth (ca. 102.–98. levels). Apparently a torrent was beating against this side in rainy season. Indeed, a drawing made for Le Bas in 1842 seems to show the east side of 'CG,' somewhat better preserved than now, to be sure, and crowned with a kind of attic above the piers—but submerged nearly to the top in a regular lake along its east side.[45]

An indication of the date when the Byzantine repairs and changes may have been made is provided by Byzantine coins of the tenth and eleventh century found in the east chamber of the Main Arch and in the fill in

[42] The top of the keystone was at ca. 97.80 level, the lowest part so far uncovered at 96.90. This lower arch was wider than the arch (door) above it.

[43] There are traces from cementing of the pipe. This open side of the hemicycle was covered with pinkish white cement or plaster also encountered in the Byzantine rebuilding of the West Chamber of the Main Arch.

[44] The upper at 99.6 m. contained partly burned pieces of marble, the lower at 99. had great quantities of "slag."

[45] Ph. le Bas, *Voyage archéologique en Grèce et en Asie Mineure* (1842-44) ed. S. Reinach (1888) 44, pl. 54-56. The caption—"Ancient Wall on the bank of the *Pactolus*" is wrong; the Acropolis is seen from the Hermus Valley. The drawing is by Landron.

the hemicycle.[46] Other finds associated with the Byzantine levels (glass bracelets, pottery) would accord with a Middle Byzantine date; so would the chaotic use of marble spoils (architectural blocks and a "Sidamara" sarcophagus fragment).

The eastern structure is only one part of the complex, which, by the rise of ground, is shown to extend to the north; thus a vast task is awaiting us.

The bold handling of arches and domes in pure masonry contrasts with the use of mortared rubble and concrete normal in other Roman structures of Sardis (Stadium, "Odeum," Buildings B and C).[47] It will be a matter of great interest to ascertain its date. In a general way, the plan and structural details of 'CG' recall the nymphaea of Pamphylia and Pisidia usually dated in the first and second century A. D.[48] These too are built of stone masonry.

THE HOUSE OF BRONZES

Our last effort to reach the lower levels was begun on August 2, with Hansen in charge. The trench was laid out some 20 m. east of Building 'B' and just south of the modern highway, and instantly began to reveal Roman or Early Christian walls. Originally 13 by 7 m., the trench was eventually enlarged to ca. 12 by 15 m. The same datum of "100" was used as in the excavation of Building 'B.'

The Roman and Early Christian structure only partially uncovered (Figs. 8, 9, 10) in 1958 was of substantial size. It had undergone changes. Essentially, the part excavated in 1958 consists of rooms on a lower, probably basement level (Units 1, 2, 5, 7, 8) and those on a higher level (3, 6, 10). It will be noticed that the floors of the "basement" rooms are not all on precisely the same level (Section, Fig. 10).

Room 1 is a somewhat irregular oblong, which measures 2.64 by 1.90 m. It was 1.78 m. when its vault was complete. Apart from the east wall, its walls of brick are covered with plaster. The floor was at 97.20. In its last period Unit 1 was vaulted; two slabs of stone set into its eastern wall show that access was gained through a part left unvaulted. The manner in which the various objects lay suggests that they may have fallen from shelves, but no definite traces of these were found.

In the southeast corner stood a large pithos; a very large earthenware plate lay just south of it. A smaller dish or bowl was found in the southwest corner. A welcome surprise were the bronze vessels (Fig. 11; *Archaeology* 12 (1959) Fig. 11); a wine flagon with square shoulder lay in the center of the south wall; two *authepsae* or heating vessels along

[46] At 99.00, above the Byzantine "floor" of East Chamber; Basil II (960-1025 A. D.); at 100.35-99.9 m., in fill at center of North Hemicycle, John I. Zimisces (969-976 A. D.); preliminary identifications by C. S. Detweiler.

[47] A. H. S. Megaw tells me that somewhat similar handling of masonry—including niches with half domes—occurs in the gymnasium of Salamis on Cyprus, in phases dated to the first and second century A. D.

[48] C. Lanckoronski, G. Niemann, and E. Petersen, *Les villes de la Pamphylie et de la Pisidie* I (Paris, 1890) pp. 50 f., Fig. 37, Pl. 14 (Perge), pp. 145-152, Pls. 30 f. (Side). A. M. Mansel, *Archäol. Anzeiger* (1956) pp. 86-89 (Side). For the character of masonry cf. *ibid.*, Fig. 19.

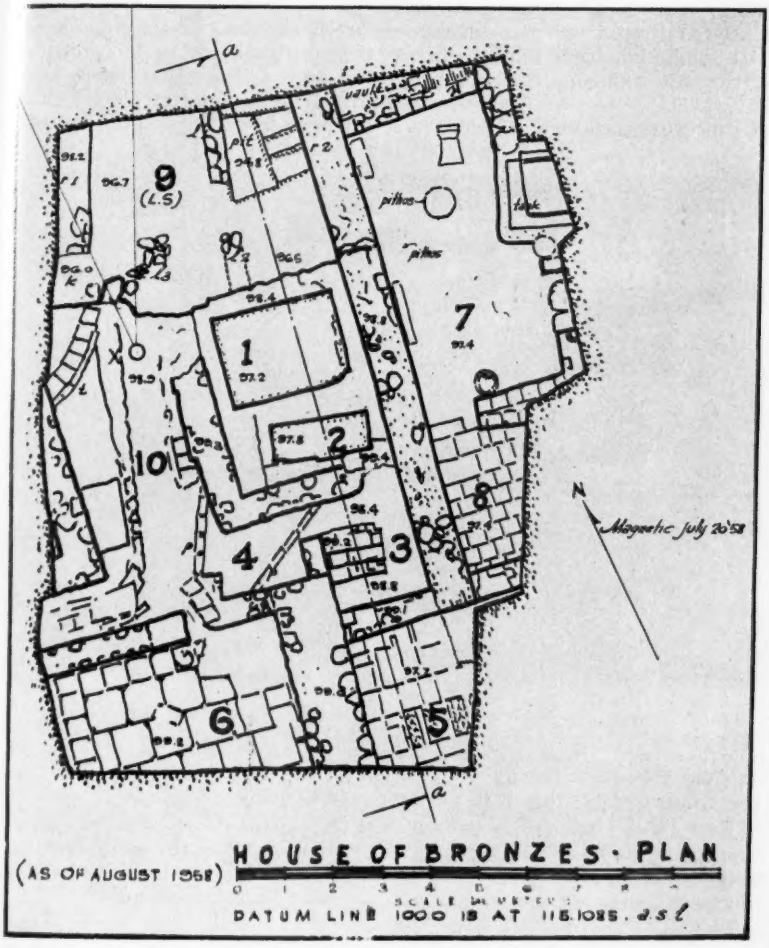
a
vaulted
pithos
tank
pithos
9
(L.S)
1
2
3
4
5
6
7
8
10
N
Magnetic July 26'58
a
(AS OF AUGUST 1958)
HOUSE OF BRONZES · PLAN
SCALE
DATUM LINE 1000 IS AT 115.1085. a.s.l

FIG. 8.

the north wall; the Early Christian "Embers Shovel" and two censers, one round, the other hexagonal were found in the northeast corner.

Unit 2 was also a vaulted chamber built of brick except for the east wall; it was ca. 2 m. long (east-west) and 1 m. wide. Its walls had been plastered at least twice at different periods. The floor, too, was covered with similar plaster or cement. Traces of vaulting stopped ca. 60 cm. west of the east wall, showing that here, as in Unit 1, the eastern part was left unvaulted to permit access. The arrangement of water pipes south of Unit 2 suggests that it served as a cistern in at least one phase of its

FIG. 9. House of Bronzes, viewed from the north. Foreground: Lydian Shop.

existence; however, many bones were found in the eastern end of the room, apparently thrown in during its latest phase.

Both Units 1 and 2 were built against the plastered face of the powerful mortared rubble and brick wall which runs north-south and serves as their eastern wall (Fig. 8). This, along with the irregularities of their alignment, suggests that they were built later than the big wall.

Located likewise along the west side of this wall, Unit 3 preserves three steps built of brick (tread 29 cm., riser 22 cm.) which rise from a simple earth level (98.4–98.8) intermediate between the higher and lower units. The continuation of this staircase appears to have been cut by a rebuilding of the area north of the steps.

Only the northwest corner of Unit 5 has been exposed in 1958. Its floor (97.7 m.) was at one time made of marble with a patterned center-

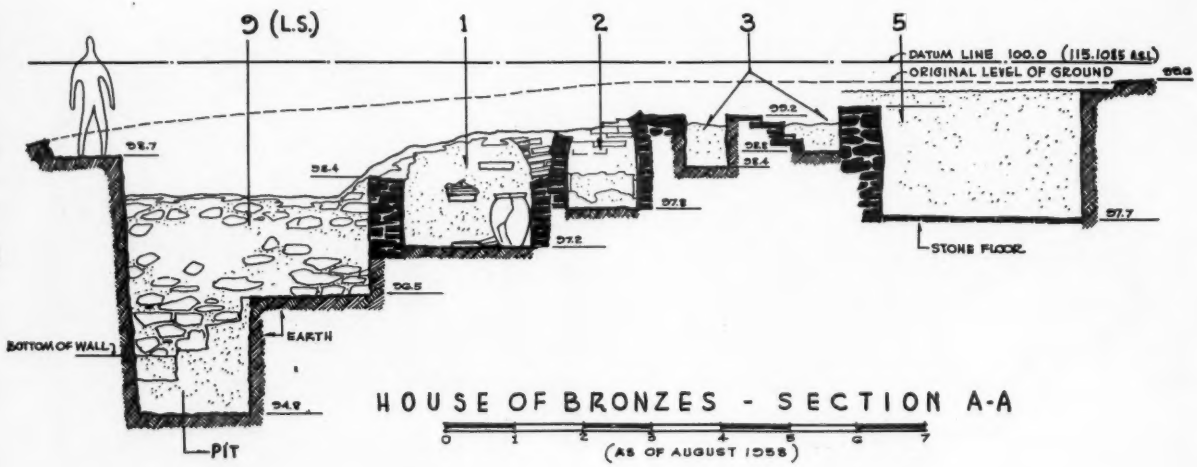
9 (L.S.)
1
2
3
5
DATUM LINE 100.0 (115.1085 ASL)
ORIGINAL LEVEL OF GROUND
99.6
99.2
98.8
98.4
98.7
98.4
97.8
97.2
97.7
93.5
STONE FLOOR
EARTH
BOTTOM OF WALL
94.9
PIT
HOUSE OF BRONZES - SECTION A-A
0 1 2 3 4 5 6 7
(AS OF AUGUST 1958)

FIG. 10.

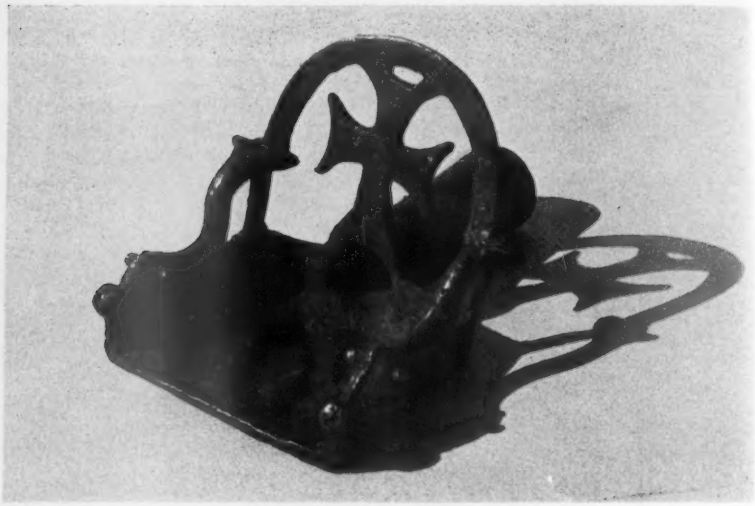

FIG. 11. Bronze shovel with cross.

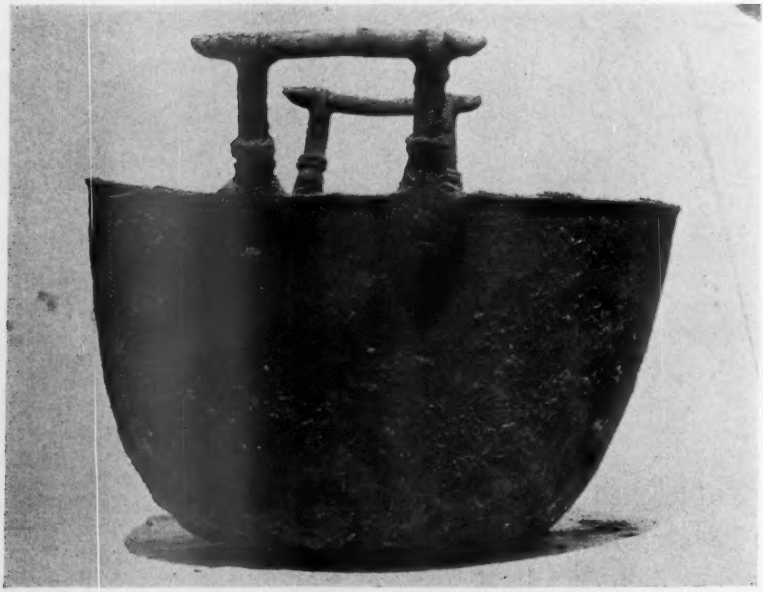

FIG. 12. Bronze brazier from Unit 7, House of Bronzes.

iece of *opus sectile*.[49] Both the north and the west wall had been partly ebuilt. Fragments of painted stucco were found here.

Units 7 and 8 are not yet completely exposed. They communicated hrough a door or gate 1.04 m. wide. The south wall of Unit 8, built of rick, bonds in with the west wall. Unit 8 is carefully paved with large iles. A bronze chain from a lamp or vessel was found along the east side.

Unit 7 is about 5 m. long and 3 m. wide. Its earth floor is at ca. 97.4 m. ts west wall is formed by the same heavy north-south wall which serves s the west wall of Unit 8. This wall was plastered on both east and west aces. The south wall of Unit 7 is preserved to a considerable height bove the floor and is built of alternate courses of bricks and river stones. Curiously, this short stub wall spreads in width to the east. The adjacent east wall leads to a doorway (1.70 m. wide) flanked in front of the jambs by two column drums. The line of the east wall is interrupted by a tank (1.40 m. by 1.10 m.; 0.90 m. deep) set obliquely into the wall.

Two pithoi were standing on the floor; two hollowed-out marble stands (H. 0.69 m.; upper Dm. ca. 0.50 m.), one near the northern, the other near the southern end, contained sulphur. In the southeast corner of Unit 7 stood a marble statue of Bacchus (its face damaged, perhaps intentionally; *Archaeology* 12 (1959) Fig. 13); behind it lay five stone mortars or basins and a pestle in the shape of a bent human leg, all of dark volcanic stone.

The large bronze cauldron (Fig. 12) was found near the west wall. Around it and beneath its base on the floor was a circle of carbonated wood; traces of charcoal still adhere to the interior. North of the tank, only a poorly preserved stretch of wall has been traced so far. A vault at the north end of Unit 7 is yet to be excavated; it seems to be a later construction like Units 1 and 2. Unit 7 appears to have been a work area for some kind of domestic industry which required a vat or tank, sulphur, and heating equipment.[50]

On the higher level, Units 4 and 10 (floors at 99.40 and 99.50) are considerably disrupted. Unit 6, not completely excavated, has a very carefully made tile floor at 99.2; the largest tiles seem of double the normal size (0.75 by 0.75 m.). In the center of the room a large block of marble rests on fallen rubble. We hope that better preserved units of the upper level may lie concealed under the rising ground to the southwest.

THE "LYDIAN SHOP"

Unit 9 is bounded on the west by a wall running northward from Unit 10 and on the east by the same stout wall which separates Units 1, 2, 3, 5 from Units 7 and 8. The former is sunk to a depth of ca. 64 cms.; the latter reaches with its foundations down to 95.80, its foundation courses

[49] Similar *Ergon tis Archeol. Eterias 1957* (1958) pp. 57 f., Figs. 59 f.; *BCH* 82 (1958) p. 700, Figs. 14 f., dated in the sixth century A. D.

[50] Dr. D. J. de S. Price suggests that sulphur may have been used in bleaching. Sardis was, of course, famous for its textiles. Cf. R. J. Forbes, *Studies in Ancient Technology* (1950). Sulphur is found abundantly in the quartz veins of the Tmolus and there are sulphur springs at "Hamam" in the Dabbağ Çay (River of the Tanneries) Valley, east of the Acropolis. Cf. *Sardis* I, pp. 20 f.

beginning at ca. 97.40. Its maximum preserved height is over 4 meters (cf. Figs. 8, 9, foreground, and 10).

During the last ten days of the excavation we decided to go down in this area which had produced some Hellenistic and Lydian sherds. Over a depth of ca. 2.20 m. from surface, five strata could be distinguished. Two of these, showing reddish discoloration and separated by a dirt level, may attest to conflagrations. All but the lowest stratum (97.8–96.5) were disturbed by the building of the House of Bronzes, as attested by intrusive Hellenistic and Roman sherds.

At the bottom of this lowest stratum there appeared (at 96.5–96.7) an earth floor, partially broken and covered by a layer of ashes. The floor continues westward and northward beyond the area excavated in 1958. This floor was crossed in a north-south direction by a wall of field stones, of which two fragments survive (Fig. 8, Plan, *l* 1 and *l* 2 and Fig. 9, center). Presumably they formed the base of a wall, of which the bottom was 0.30 m. below the floor.

Nests of Lydian vases were found on this floor. Curiously, upper parts of the vases remained relatively intact and close to each other, as if they had been standing together, while the lower parts were smashed and sometimes scattered about. The major categories found were: "Waveline Hydriae and Amphorae"[51] (Fig. 14); Black-on-Red stemmed goblets; flat-rimmed plates; streaked lydia (2) (*Archaeology* 12 [1959] Fig. 14); red-slipped and burnished vases, among them a huge lid with vertical loop handle. Black-slipped and polished wares were also represented, for instance, by a large foot of a cup, but in no great quantity. The most impressive pot is a large bichrome shoulder-handled amphora with partly Geometric, partly Orientalizing decoration[52] (Fig. 15).

The date of the (96.5-7) floor of the 'Lydian Shop' is given by a fragment of Rhodian "White Slip" Wildgoat A ware,[53] ca. 625-600 B. C.

A channel-like arrangement of stones (*l* 3 in Fig. 8, Fig. 9, right), the tops of which were approximately level with the Lydian (96.5-7) floor, led into the southwest corner. There, preserved up to 1.50 m. in height, was found about one half of a circular construction of river stones. A black layer of coal and ashes (10 cm. thick) law at approximately the level (96.7-8) of the floor of the Lydian Shop, but the structure continued downward for a half meter below this floor level (to ca. 96). About 1 meter above the (96.5-7) floor, the river-stone wall of the structure begins to curve as if to form a false dome. Plan and arrangement resemble the firing pits and kilns for pottery known elsewhere.

The sherds found in the "Oven" underneath the deposit of coal and ashes (96.7–96.00) belong to an earlier phase of Lydian pottery than those found on the floor (96.5-7) of the "Lydian Shop." Brown, black, and grey burnished monochrome form the majority. Among the few

[51] For a preliminary study of this class, cf. G. M. A. Hanfmann, *The Aegean and the Near East, Studies H. Goldman* (1956) pp. 176 ff.

[52] Bichrome amphora: illustr., Fogg Art Museum, *Annual Report* (1957-1958) p. 17.

[53] Published in *Archaeology* 12 (1959) p. 61, Fig. 16.

painted fragments we found Black-on-Red, including a cup with pendent half-circles,[54] "Iron Age" Bichrome (Black, White, Red) bowl with wavеline outer rim, and a brown-burnished deep bowl with a flat base decorated with multiple wave lines on the external rim.[55] Sherds from this lower part of the "Oven" were blackened by fire. They may well belong to an earlier phase of this structure.

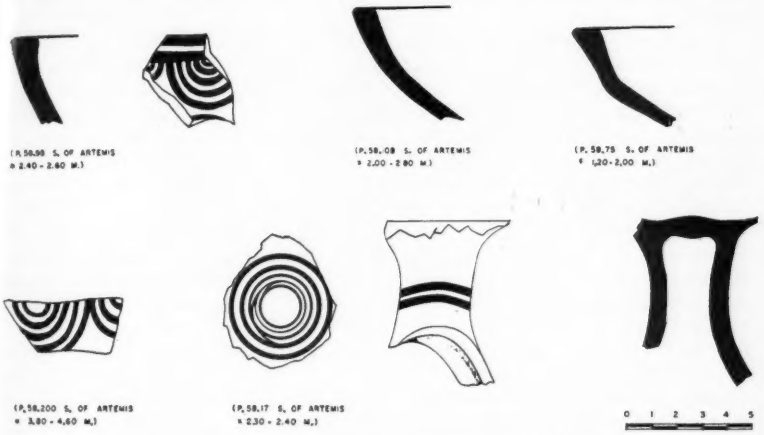

FIG. 13. Protogeometric and geometric sherds from the Trench south of Artemis Temple. **P 58.98** (100). Ledge-rim of crater. Brick-red local clay and slip. Matt-black paint. Level II. D. ca. 0.30 m. **P 58.108.** Plate. Wet-smoothed red local clay; horizontal red bands on ext. rim and interior. Level II. D. 0.28 m. **P 58.75.** Plate or bowl. Red-slipped, black band ext. rim, triangular design near bottom. Level II. **P. 58.200.** Bowl? Wet-smoothed red-buff local clay. Ext. undecorated. Int. black concentric circles. Level III. **P 58.17.** Fragment of stemmed bowl. Local Black-on-Red. Level II.

The same early phase of Lydian pottery was encountered in a pit (1.75 by 1.75 m.) which we sank through the disrupted Lydian floor in the northeast corner of Unit 9 (Figs. 8, 10). For a depth of ca. 1.20, loosely stratified brown earth with some ashes, bones, and a few fragments of mud brick was found in formation that seemed to slope eastward. Sherds were frequent, the majority (90%) in brown, grey, and black monochrome techniques, chiefly flat-bottomed bowls.[56] Black-on-Red, Black-on-Buff, Red-on-Buff were represented among the painted sherds. Decorative motifs include pendent and upright half-circles,

[54] For this motif cf. the cup from First Sardis excavation, G. M. A. Richter, *Met. Museum, Handbook Greek Coll.* (1953) Fig. 16e.

[55] The multiple wavelines are characteristic of very Late Bronze and Early Iron Age. Cf. *Swedish Cyprus Exped.* 4: 2 (1948), Fig. V: 14, Cypro-Geometric I. V. Desborough, *Protogeometric Pottery* (1952) Pl. 5: 560. The deep, flat-based burnished bowl is an Anatolian shape.

[56] One with horizontal band-handle like *Studies D. M. Robinson* I, p. 172, Fig. 3 c.

multiple circles of " Cypriote " type, simple and multiple wavelines, and metopal pattern, both straight and wavy. This ornamental vocabulary seems to link with the Cypriote-Cilician-Southern Anatolian traditions on one side and Greek Protogeometric on the other.[57] While precise dating of this earlier phase of Lydian pottery (also represented by stray finds from the Artemis precinct, Fig. 13) must await further excavation, it seems already likely that its upper chronological limit may need to be raised.[58]

Only brief comments on the finds can be presented. The sequence of pottery shows not only the progression of ceramic production from the Early Iron Age through the Lydian archaic (sixth century). Finds from the sounding around building ' L ' seem to reflect a gradual degeneration of Lydian traditions and a change from the native to a ' poor black ' or ' poor red ' glaze technique with shapes derived from Greek black-glazed wares. This process began in the fifth century and apparently continued through the Hellenistic Age. Attic black and red figure is so far very scantily represented.[59] Hellenistic (" Pergamene ") relief ware, too, is scant, and the same is true of Roman sigillate wares.[60] The find in the Byzantine Shops of an Early Christian *ampulla* decorated with a cross and a laurel wreath deserves to be noted.[61] A very sizeable production of plain household wares seems to continue uninterruptedly into Byzantine age. There is enough evidence of " sgraffiato " green glazed wares to show that Sardis possessed workshops of its own. The more ambitiously decorated pieces displaying birds, floral and interlaced pattern seem to be associated with the Middle Byzantine period (10th through 12th century A. D.), but the possibility that this class developed from a Late Roman tradition remains to be investigated.[62]

[57] Cypriote-Cilician: multiple fine circles, Black-on-Red technique; Southern Anatolian: Bichrome technique, wavelines on outer rim, wavy-line metopes. Cf. J. Mellaert, " Iron Age Pottery from Southern Anatolia," *Beleten Türk Tarih Kurumu* 19 (1955), Pls. 1 ff., esp. nos. 103, 129 (metopes); shapes like the tall stemmed cup (in Black-on-Red) and " Iron Age bowl," Pls. 1, 4; 5; 6: 80 f. Greek: chiefly half-circles and " filled " circles, straight metopes, possibly also multiple wavelines. Cf. C. Weickert, *Istanbuler Mitteilungen* 7 (1956) Pls. 36, 39: 2 and 31 (Miletos). Desborough, *op. cit.*, Pls. 1, 12: 590.

[58] The ornamental vocabulary would warrant a date in the ninth, conceivably in the tenth century. For my earlier dating, cf. *D. M. Robinson Studies* I, pp. 175 ff. It is as yet not clear whether the monochrome wares of this Early Iron Age phase represent a survival from the Anatolian Late Bronze Age.

[59] One fragment of a black figure eye-cup; bottom of a red-figure crater.

[60] The most elaborate sherd shows a palm branch and two amphorae. F. F. Jones compares J. W. Crowfoot, *The Objects from Samaria* (1957) Fig. 63: 20, dated first century B. C. For examples from earlier Sardis excavation, cf. *Sardis* I, p. 121, Ill. 127. The two best preserved sigillate bases with square imprints (P 58. 126 and 313) Form Haltern 8, the first perhaps Augustan, the second Tiberian, according to Howard Comfort.

[61] Cf. O. Wulff, *Beschreibung altchristl. Bildwerke Berlin* 3: 1 (1909) pp. 264 ff., esp. nos. 1354-6, fifth to sixth century A. D. The Sardis example must date from the sixth or early seventh century. Illustr. *Archaeology* 12 (1959) pp. 59, Fig. 9.

[62] Such pieces were found in association with lime-kiln levels within ' B ' and in the secondary occupation of ' L.' However, undecorated samples that may be earlier were found immediately over the floor of ' B.' Pieces similar to those of Sardis came from Pergamon. Cf. O. Wulff, *op. cit.*, 3: 2 (1911) nos. 2100 ff., 2153, 2169,

In glass, too, there is increasing likelihood of local production. In view of the rarity of datable finds from the Early Byzantine era, the rich finds from the Byzantine shops await expert examination. Another group (notably from 'CG' and Byzantine occupation of 'L'), particularly bracelets, are Middle Byzantine.[63]

The *ensemble* of bronze vessels and implements found in the House of Bronzes[64] presents great interest because of its homogeneous char-

FIG. 14. Waveline Hydria from Lydian Shop.

acter, because of its provenance from Asia Minor, where few objects of this kind have been found in controlled excavations, and because of its potential significance for the history of liturgical objects. The shovel (Fig. 11) surmounted by a cross is so far unique, although Roman bronze shovels are known and often thought to be the *batilla* or *vatilla* used in sacrificial ritual.[65] Some parallels may be adduced for the round

2183, Pls. 23, 25 f. For previous finds at Sardis, cf. *Sardis* I, p. 44, above levels with coins of Heraklios; this corresponds to the absence of such pottery from the "Byzantine Shops" which ended under Heraklios.

[63] Additional data in "A Preliminary Note on the Glass Found at Sardis in 1958," *Journal of Glass Studies* (forthcoming).

[64] A detailed study by Donald P. Hansen is in preparation, with assistance of a grant from the American Philosophical Society. I am indebted to his notes for some of the references.

[65] Crosses covered with circles are frequent on bronze lamps, e. g., O. Wulff, *op. cit.*, 3: 1, p. 177, no. 798, Pl. 33, from Smyrna, fifth to sixth century A. D. For the Roman bronze shovels, cf. G. M. A. Richter, *Cat. Bronzes Met. Mus.* (1915) pp. 235 f., nos. 658-660, and E. R. Goodenough, *Jewish Symbols in Greco-Roman Period* 1

and hexagonal bronze censers.[66] The two fascinating, inner-tube *authepsae* have Roman antecedents, but the only later parallel comes from the Royal graves of Nubia.[67] We have not so far found any good parallels for the square-shouldered wine flagons or the mighty cauldron (Fig. 12) with its leaf-shaped handle attachments. As to dating, it is only certain that this important group must date after the time of Constantine.[68] A bronze buckle, originally inlaid and adorned with two heads of eagles, is a remarkable Early Byzantine piece found in the Byzantine Shops.

The find in 1954 of an archaic marble statue built into a Roman house wall and of an archaic painted terracotta (T. 58.22, in the fill, 'B'; ovolo) sima during our campaign indicates that the region around the Building 'B' area may well harbor important archaic remains. The earliest piece of sculpture found in the last campaign, a relief of Cybele, seems to reflect the seated cult image of the fifth century B. C., presumably erected when the temple of Cybele was restored after the destruction by the Ionians.[69] Another chance find, the stele of Matis, is an appealing piece of sculpture in its own right and of interest for the Hellenization of art and language of Sardis in the Early Hellenistic era.[70] Of the sculptures found in the Byzantine Shops and building 'B,' the statue of a boy leaning against a pillar deserves attention as a fine example of Roman workmanship of the second century A. D. One would expect Attis, though admittedly there are no features sufficiently distinctive to assure this identification.[71] A magnificently wrought and polished

(1953) pp. 173 f., Figs. 436-9, a reference owed to A. D. Nock. G. remarks, "a shovel for holding coals on which incense was put."

[66] C. M. Kauffmann, *Handbuch der altchristl. Archäologie* (1922) pp. 578 ff. Round: W. B. Emery, *The Royal Tombs of Ballana and Qustul* (1938) p. 299, No. 534. Hexagonal: J. Strzygowski, *Koptische Kunst, Cat. Gen. Caire* (1904) 283, Pl. 32, no. 9116, fifth to seventh century. O. M. Dalton, *Early Christ. Art, Brit. Museum* (1901) pp. 87 f. no. 399 and unpublished, 1923. 5-12. 378, with three crosses on rim. O. Wulff, *op. cit.* 311 (1909) pp. 202 ff., nos. 983, 985, 987.

[67] E. Pernice, *Hellenistische Kunst in Pompeji* 4 (1925) Pl. 2. A. Mau, *RE* 4, pp. 2594 f., s. v. *authepsa*. W. B. Emery, *The Royal Tombs of Ballana and Qustul* (1938) p. 357, Fig. 114, Pl. 83, ca. 450-600 A. D. is like Sardis M 58.93.

[68] The only coins found in safe association with floors of the "House of Bronzes" were those of Gallienus and Constantine.

[69] Repr. *Archaeology* 12 (1959) p. 61, Fig. 17. In his excellent article on Cybele statues, A. von Salis claimed the creation of this type for the pupil of Phidias, Agorakritos, who made the statue of the Mother of Gods for the Metroon in Athens. However, even Von Salis conceded that the type with the lion in the lap might be of Anatolian inspiration. It seems possible that the relief from Sardis reflects a somewhat earlier creation, a statue made for the temple at Sardis. Cf. *JdI* 28 (1913) pp. 3 ff.; 19 ff., and, for comparison with Sardis, especially Fig. 10. The question whether the famous temple of Cybele is identical with that of Artemis remains unresolved. For the testimonies on the *Kybebeion* burned by the Ionians, H. C. Butler, *Sardis* II, pp. 140 ff., who seemed to accept the identification, yet said, "It is impossible to know if the temple visited by Themistocles and referred to as the Metroon was this temple of Artemis." I feel less certain now than in *Harvard Studies of Classical Philology* 63 (1958) p. 66, about the identification of *Artimu* and *Kubaba*. The new relief was found by chance built into a Byzantine wall, northeast of the Artemis precinct. NoEx 58.27. H. 0.345 m. It seems to be of the fourth century B. C.

[70] Found about 1 km. west of the Pactolus bridge. An article by K. Z. Polatkan, Louis Robert and the writer will appear in *AJA*.

[71] A torso very similar to that of Sardis, but leaning against a column rather

foot, Hadrianic or Antonine, found within the interior of 'B,' may well belong to an Imperial statue.[72] Another important piece found within 'B,' and perhaps part of its internal decoration, is a Roman pilaster capital of the second century A. D. Standing on a plant in its center is

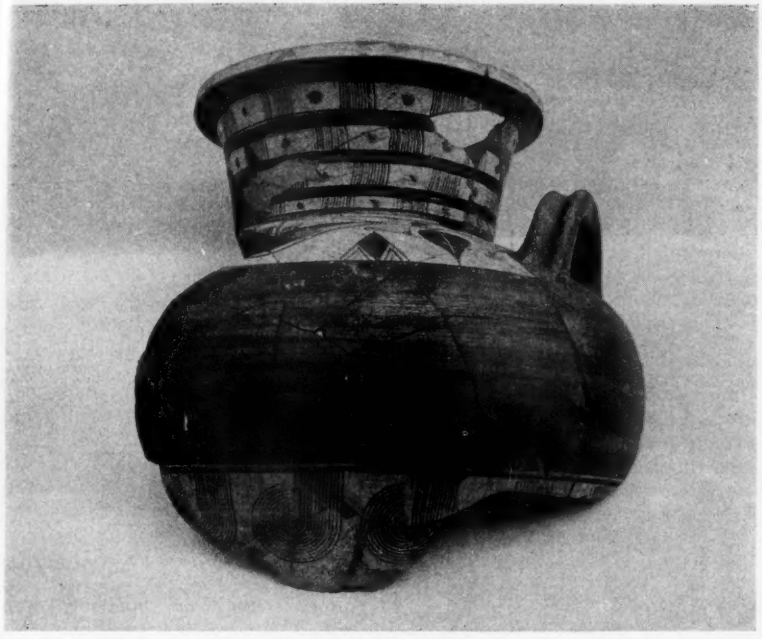

FIG. 15. Bichrome shoulder-handled amphora from Lydian Shop.

the representation of an archaic Lydian cult image, presumably a piece of great sanctity that survived into Roman times. The image appears on Roman coins of Sardis, where it is identified as a goddess of vegetation by the attributes—a stalk of wheat and a poppy flower.[73] A crescent is seen behind her shoulders. Among the numerous smaller fragments

than a pillar, from Ephesus, is in the Mead Museum, Amherst. The Sardis example (S 58.8) had its face knocked off; in addition to the torso (H. with pillar, 0.30 m.) there are preserved fragments of legs and arms and of the base, which shows traces of either a staff or a tree.

[72] S 58.48. H. 0.135 m.

[73] S 58.50. H. 0.23 m. Cf. B. V. Head, *BMC Lydia* (1901) pp. cx, 249, 259, 265, Pls. 26: 2, 27: 2. Head suggested that the image on coins is that of *Kore*, presumably the Greek name for an Anatolian goddess in whose honor the festivals of *Koraia* and perhaps *Chrysanthia* were celebrated at Sardis. Cf. H. C. Butler, *Sardis* I, pp. 114 f. and H. W. Bell, *Sardis* XI: 1, pp. 28 f., 32, nos. 267, 275, 298, on xoana on Sardian coins which they interpreted as those of Artemis.

either found or brought to the excavation,[74] it may be well to note two pieces of Early Byzantine marble screens from the interior of 'B.'[75]

Terracottas were scarce, but a striking head of a blond barbarian with a "Phrygian" cap shows that the class of "Hellenistic grotesques" was known at Sardis.[76]

Pending further cleaning and study, only preliminary information can be given on coins. This is based on data submitted by Catherine S. Detweiler.

The inscriptions found in the excavation will be treated by Sherman E. Johnson. In addition, some inscriptions were either brought by villagers to the excavation or found in the village. Particularly noteworthy among the latter is a dedication mentioning King Eumenes and Sabazios.[77]

NOTE ON COINS

Coins found during the 1958 campaign number approximately 460, including fragments. Some 150 were so corroded as to defy even preliminary identification, except as to general categories. With the exception of two Turkish silver coins, all were bronzes.

The finds included: 12 Turkish coins; 2-3 Hellenistic local Greek coins; 2 Sardis coins of the second century B. C.; 2 Sardis Imperial; and 1 Ephesus Imperial. The Roman Imperial coinage from the first through the early fourth century A. D. was represented only by a half dozen coins; the House of Constantine by ca. 15 coins; the emperors from Valentinian I (364-375 A. D.) through Honorius (393-425 A. D.) by nearly 60; from Anthemius (467-472) through Tiberius II (578-582) by 32; from Maurice Tiberius (578-582 A. D.) through Heraclius (610-641 A. D.) by 60, of which over 40 were those of Heraclius. There follows a gap after which the Middle Byzantine period from Basil II (960-1025 A. D.) through Alexis III (1195-1203 A. D.) is represented by 10 coins.

Considering the various sectors (and including coins identified only as to their general categories) the following picture emerges: Byzantine Shops at 'B,' 416; Building 'L,' 26; House of Bronzes, 8; Building 'B,' 4; Building 'CG,' 4; Trench south of the Temple of Artemis, 1; Cemetery on 'KG,' 1.

The abundance of coins found in the Byzantine Shops confirms the commercial character of these structures. The coins found there fall primarily into two groups: Late Roman and Early Byzantine. The Late Roman types seem to be concentrated in the later fourth and early fifth centuries A. D. Most of the Early Byzantine coins come from the period spanning nearly a century, from Justinian into the reign of Hera-

[74] All told, 14 came from excavations and 10 from chance finds, exclusive of architectural fragments.

[75] Cf. O. Wulff, *op. cit.*, 3 Suppl. (1923) p. 6, no. 7. 6711, for the scale pattern: 4th to 5th century A. D.

[76] Unstratified, from the area of "Byzantine Shops." T. 58.24. H. 0.05 m.

[77] These as well as an account of the present location of old Sardis inscriptions, and of previously unrecovered fragments from the first Sardis Expedition, will be published separately by S. E. Johnson.

lius (641 A. D.). So far, no coin later than the reign of Heraclius has been identified. As pointed out above (n. 32), the First Sardis expedition also found some evidence for a destructive event that befell Sardis during that reign.

The latest coin found in reliable context in the Roman Building 'L' seems to be one of Anthemius (467-472 A. D.). Eight Middle Byzantine coins, from Alexis I through III (1081-1203 A. D.) attest a temporary re-occupation.

Apart from two Turkish coins found on or near the surface, Building 'CG' produced only two coins, but these are of value for the dating of Byzantine activities at that structure to the tenth century A. D. (cf. n. 46, above).

The only coins in valid context found in the House of Bronzes were a coin of Constantine and a local Sardian Imperial coin on the floor of the basement Unit 7. A coin of Theodosius and a coin of Justinian were surface finds.

No coin has been found within 'B.' Two Islamic coins and two Roman coins were chance finds in the fill piled against the exterior.

Only a completely polished and effaced coin came to light on 'KG.' The lone coin from the mixed surface level (I) of the trench south of the Artemis Temple was a Roman Imperial coin of the third century A. D.

THE DATE OF CASEMATE WALLS IN JUDAH AND ISRAEL AND THEIR PURPOSE[1]

Yohanan Aharoni

Two different types of fortifications have been discovered in various Israelite and Judaean cities, e. g. (a) casemate-walls; (b) solid walls, usually built with projections and recesses. The accepted opinion is that the main reason for these different constructions is chronological. This assumption is based mainly on the difference between the casemate-walls of Tell Beit Mirsim (TBM) and Beth Shemesh (AS) in comparison with the solid walls of Megiddo, Gezer and Tell en-Naṣbeh, all of Solomonic and later date. The first are similar in outline and size, and we may assume that they were built at about the same time and according to a common plan.[2] The opinion was therefore generally accepted, that casemate-walls were Davidic or earlier and were employed only occasionally thereafter.[3] Recently Cross and Wright stressed still further

[1] This is the main part of a paper read at the Second World Congress of Jewish Studies (Jerusalem, July 27 to Aug. 4, 1957) under the title, "The Foundation of the Store-cities by the Kings of Judah and Israel."

[2] E. Grant and G. E. Wright, *Ain Shems Excavations* V, pp. 23 f.; W. F. Albright, *Tell Beit Mirsim III*, §§ 5, 6.

[3] *Tell Beit Mirsim III*, pp. 14 f.

the difference between the constructions of David and Solomon and proposed that Beth Shemesh IIa belongs to David and IIb to Solomon.[4] According to this theory there is a new phase of building in Solomon's time, even though the wall and all the important buildings were built already during David's days.

These opinions are based mainly on two assumptions: (a) casemate-walls are very rare in Israel after the middle of the tenth century; (b) it seemed improbable that at the same time different types of walls were built in various Israelite cities. However the new discoveries disprove these assumptions.

It is now obvious that casemate-walls continued in use and were constructed after the tenth century no less than before. In addition to the fortifications of ninth century Samaria, discovered long ago, we now know fortifications in various other cities: Hazor [5] and Tell Qasile [6] in Israel, Ramat Raḥel [7] and Khirbet al-Gharra [8] in Judah. Even at Gezer we have now a section of a Solomonic casemate-wall, with the convincing discovery of Yadin that the gate and wall of Macalister's "Maccabean castle" resembles in plan and masonry the Solomonic constructions at Hazor and Megiddo.[9]

The walls of Hazor, Gezer and Tell Qasile belong to the tenth century. The wall of Ramat Raḥel belongs to the ninth-eighth centuries, and the wall of Khirbet al-Gharra in the Negeb, discovered during an archaeological survey and not yet excavated, probably belongs to the same period. There may be added the two main Judaean fortresses at the southern border, at Kadesh Barnea and Khirbet Ghazza, which were built also about the ninth-eighth centuries according to the latest examinations.[10] Both are surrounded by casemate-walls. It becomes therefore obvious that casemate-walls continued in use in Israel and Judah besides the other type of fortification.

The casemate-walls of Hazor, Gezer and Tell Qasile belong with much probability to the time of Solomon. This is especially clear at Hazor according to our stratification, strengthened by the biblical passage indicating that Solomon build Hazor together with Megiddo and Gezer (I Kings ix, 15 ff.).[11]

The conclusion seems therefore to be unavoidable that different types of fortifications were used in Israel and Judah during the 10th and 9th centuries. It seems even probable that Solomon built different walls in

[4] *JBL* 75 (1956), pp. 215 f.
[5] *Hazor I*, p. 10; *IEJ* 7 (1957), p. 119; Pl. 27 A.
[6] *IEJ* 1 (1950-51), pp. 66, 73; Fig. 1.
[7] *IEJ* 6 (1956), pp. 138-144; Fig. 9; Pls. 22-24.
[8] *IEJ* 8 (1958), pp. 36 f.
[9] Y. Yadin, "Solomon's City Wall and Gate at Gezer," *IEJ* 8 (1958), pp. 80-86.
[10] *IEJ* 8 (1958), pp. 33-35.
[11] The Solomonic date of the casemate-wall was finally established with the excavation of the gate in 1957. This gate is built exactly according to the same plan as the Solomonic gate of Megiddo (Stratum IV B; *Megiddo II*, pp. 46 ff.; Figs. 104-105), though the workmanship in Hazor is much cruder and good ashlar is lacking; cf. *IEJ* 8 (1958), p. 3; Pl. 2 A.

different cities: casemate-walls in Hazor, Gezer [12] and perhaps Tell Qasile but a solid wall with projections and recesses in Megiddo.[13]

In accordance with this fact there remains no reason to attribute the walls of Tell Beit Mirsim and Beth Shemesh exclusively to the time of David. The Solomonic wall discovered recently at Hazor resembles them in plan and measures. With archaeological methods alone it is impossible to distinguish between the later days of David and the reign of Solomon, and their similarity does not yet prove that they were built exactly at the same time. The wall of Ramat Raḥel, for instance, is at least a century later, and still its measures are identical with the three earlier walls. It is obvious that there existed during the tenth and ninth centuries an accepted and accurate method of casemate construction, which was common in Israel and Judah. However, biblical tradition generally relates building operations and fortifications to Solomon, who tried to hold and defend his large inheritance, and not to David, who adhered to an offensive strategy.

The dating of the TBM and AS walls to the days of David caused other difficulties. Albright assumed that David fortified TBM during his first seven years, when he still reigned in Hebron, because in his later days the defence line against the Philistines was more to the west.[14] Cross and Wright drew a further consequence. Since they assume, quite plausibly, that these cities were centres of administrative districts and believe that their walls and important public buildings were built by David, they come to the conclusion that David already created the administrative division, attributed by the biblical text to Solomon (I Kings iv, 7).[15] With the dating of the walls in question to the days of Solomon these difficulties disappear, and there seems to be no reason to doubt as Solomonic the casemate-walls of Hazor, Gezer, Tell Qasile, Beth Shemesh, and Tell Beit Mirsim as well as the solid wall of Megiddo.[16]

[12] The construction of the outer wall at Gezer is very complex, but Macalister seems to be right in his conclusion that most of the "towers," with their superb ashlar masonry, are Solomonic and were added to the outer wall, in addition to some rebuilt and repaired sections. It seems therefore that Solomon re-used and rebuilt the earlier Canaanite city wall at Gezer, adding a section of a casemate-wall only in the vicinity of the gate, where a whole part was rebuilt.

[13] Ruth Amiran (*Hazor I*, p. 35) raises some doubt about the attribution of the Megiddo wall discussed here to stratum IV B, since it was built over the ruins of Palace 1723, usually attributed to David (cf. also Y. Yadin, *ibid.* p. 86). However, a casemate-wall was not discovered at all in Megiddo, and it seems improbable that such a wall should have totally escaped the attention of the excavators. On the other hand the IV B wall seems to be well connected with the Solomonic gate (cf. *Megiddo II*, Fig. 105), and as this gate was probably destroyed already by Shishak (cf. G. E. Wright, *BA* XIII, 2 (1950), pp. 43-45) the wall can hardly be later.

[14] *Tell Beit Mirsim III*, p. 37.

[15] *JBL* 75 (1956), p. 216.

[16] If the TBM and AS walls are Solomonic, it seems necessary to lower the date of the discussed strata, and this seems to be in accordance with our stratification at Hazor. Our true Iron-Age II material (Israelite period III, according to our new nomenclature) begins only with stratum VII, not earlier than the middle of the ninth century and more probably in its second half. According to Prof. Albright's and Prof. Wright's observation *AS* IIa and elevation 184-5 of "*Gerar*" ceased earlier than *TBM* B 3 (*Ain Shems Excavations V*, p. 136; *Tell Beit Mirsim I*, pp. 74 ff.).

It is hardly likely that these different systems of fortifications in Solomon's building operations are to be attributed to chance. The only reasonable explanation seems to be the different functions of various cities.[17] Hence the question arises if in the period of the kings of Judah and Israel casemate-walls were not intended primarily for the typical store-cities. In the calculations of these two small kingdoms the question of expenditure was always an important factor, even in the great days of the united Solomonic kingdom. A broad, solid city wall, requires more materials than a casemate-wall, and the great number of ideal magazine rooms in a casemate-wall saves the construction of many magazine-buildings in the store-city.

This assumption seems to be in accordance with the function of the main buildings, discovered in the various cities. Megiddo, the only known chariot-city, was surrounded by a solid and strong wall. On the other hand in all the mentioned casemate-walls original entrances to the casemate-rooms are preserved, a fact indicating clearly that they were planned from the beginning for usage, probably as storage-rooms. This construction has been preserved very well at Hazor and Ramat Raḥel. At Hazor every room has an entrance at one of the corners. At Ramat Raḥel the floors and walls of the rooms are plastered with strong and smooth cement, and the preserved doorsills showed that the rooms were locked from the outside.[18]

In addition to the casemate-rooms big magazine buildings were discovered in some places. In TBM long magazine-rooms were found joining the wall.[19] The large, so-called "*ḥilani*"-building of Beth Shemesh, erected beside the wall, was—according to general opinion—a royal store-house. In the centre of the city a second store-house has been partly excavated, and one of the biggest silos so far excavated in the country, has been discovered adjoining it.[20] A similar picture appears now at Hazor. The big pillared house was not a stable, as believed by Garstang, who began with its excavation. We believe now that this structure and the two long paved rooms adjoining it were a royal magazine-building.

It seems therefore that *AS* IIa is Solomonic, and its destruction, together with "*Gerar*" 184-5, may be connected with the invasion of Shishak. *TBM* B 3 may continue until the first half of the ninth century, cf. now the article of Ruth Amiran together with the present writer: "A New Scheme for the Sub-Division of the Iron Age in Palestine," *IEJ* 8 (1958), pp. 171-184. The absence of Beth Shemesh and Debir (Tell Beit Mirsim?) in the list of cities which were fortified by Rehoboam (II Chron. xi, 5-10) does not prove that they were in ruins (*JBL* 75 (1956), p. 216), but can be explained by their earlier fortification by Solomon. In this connection it is interesting to note that this passage mentions only "fortified cities."

[17] It is difficult to see any strategical advantage in the casemate system with open rooms, as used in Israel and Judah; it does not seem reasonable to expand great efforts in building solid walls in some cities, if the cheaper casemate-walls were considered to be stronger. At Hazor the casemate rooms were later filled in with stones, and a thick and solid wall was added. Only at a section which went out of use as a wall the casemate rooms continued to serve as store-rooms. It is therefore obvious that the thick and solid walls were considered stronger.

We shall not here go into the question of the origin of casemate-walls and their possible purposes at other places and periods.

[18] *IEJ* 6 (1956), p. 140; Pl. 24 A.

[19] *Tell Beit Mirsim III*, § 10; Fig. 2.

[20] *Ain Shems Excavations* V, pp. 68 ff.

In plan and size this building resembles the "*ḥilani*"-building of Beth Shemesh, the only difference being that instead of the two inner walls, dividing the building into three rooms, the Hazor building has two rows of pillars with shelves between them, used for storage purposes. The Hazor building is built near the casemate-wall, as is that in Beth Shemesh, and the casemate-rooms were also used as magazines and were full of store-jars and other vessels. Indeed the Hazor building belongs to the ninth century, and the buildings originally belonging to the tenth century wall have been excavated only at a small area; but it is improbable that the city-plan and the general purpose of the excavated area should have changed much in the short period from the days of Solomon to the reign of the Omri dynasty at Hazor. On the other hand nothing resembling the large stables of Megiddo has been discovered at any of the other cities.

The assumption that casemate walls were used by the kings of Judah and Israel primarily for their store-cities does not mean that this was the only function of these cities, or that no magazine-buildings were erected in other places. It means only that the royal garrison cities were classified and planned, according to their main purpose, as "chariot-cities," "store-cities" or mere "fortified cities," in accordance with the biblical nomenclature.

SOME RECENT BOOKS ON BIBLICAL GEOGRAPHY, ARCHAEOLOGY, LITERATURE AND HISTORY

(continued)

Books on Literature. *Facile princeps* is the second edition of **Otto Eissfeldt's** *Einleitung in das Alte Testament* (Tübingen, J. C. B. Mohr, 1956, xvi + 955 pp.). Rewritten and greatly expanded (e. g., with 35 pp. on Dead Sea Scroll Literature), it is a mine of information on O. T. Apocrypha and Pseudepigrapha. Eissfeldt is constantly revising and adjusting his views. Somewhat to the reviewer's astonishment, he is now trailing the author in a number of biblical dates. For instance, in a recent study Eissfeldt defended a position which he already takes in this volume, that Deut. 32 belong to the mid-eleventh century and that Psalm 78 is Davidic. Both of these positions have been accepted by the reviewer in principle and will be further defended in a paper now in press.

The fifth edition of **Walther Eichrodt's** *Theologie des Alten Testaments*, Teil 1: *Gott und Volk* (Stuttgart, Ehrenfried Klotz, 1957), has now appeared. It may be added that the latest editions of this valuable work are in roman type, which makes the book easier to read for all non-Germans and most Germans of the younger generation. Eichrodt's work was in many ways epochal when it appeared, and it retains its basic importance.

Martin Noth's *Gesammelte Studien zum Alten Testament* (Munich, Chr. Kaiser, 1957, 306 pp.) includes eight studies, among which may be noted particularly "Die Gesetzte im Pentateuch," pp. 9-141. Such collections are extremely valuable in these days of multiplied journals, since few institutions can afford to purchase all of them, and few scholars can even get access to many of them.

W. F. Albright

(*to be continued*)

AMERICAN SCHOOLS OF ORIENTAL RESEARCH

Founded 1900, incorporated under the laws of the District of Columbia, 1921.

TRUSTEES

A. HENRY DETWEILER, *Associate Dean*, Cornell University	Term 1957-59
NELSON GLUECK, *President*, Hebrew Union College and Jewish Institute of Religion	"
THOMAS W. PHELPS, *Corporation Executive*, New York City	"
JOHN W. WARRINGTON, *Lawyer*, Cincinnati	"
H. DUNSCOMBE COLT, JR., *Esq.*, New York City	Term 1958-60
OTTO VON KIENBUSCH, *Esq.*, New York City	"
CARL H. KRAELING, *Director*, Oriental Institute, University of Chicago	"
OLIVER C. REYNOLDS, *Lawyer*, New York City	"
WILLIAM F. ALBRIGHT, *Professor Emeritus*, Johns Hopkins University	Term 1959-61
GEORGE CAMERON, *Professor*, University of Michigan	"
DONALD SCOTT, *Director Emeritus*, Peabody Museum, Harvard University	"
CHARLES K. WILKINSON, *Curator*, Metropolitan Museum	"

FRANK E. BROWN, *Professor*, Yale University (for the Archaeological Institute of America)
HERBERT G. MAY, *Professor*, Oberlin Graduate School of Theology (for the American Oriental Society)
G. ERNEST WRIGHT, *Professor*, Harvard University (for the Society of Biblical Literature)

ASSOCIATE TRUSTEES

FRANK M. CROSS, JR., *Professor*, Harvard University	Term 1958, 59
LUCETTA MOWRY, *Professor*, Wellesley College	"
JAMES MUILENBURG, *Professor*, Union Theological Seminary	"
FERRIS STEPHENS, *Professor*, Yale University	"
ROBERT J. BRAIDWOOD, *Professor*, University of Chicago	Term 1959, 60
HARALD INGHOLT, *Professor*, Yale University	"
HARRY M. ORLINSKY, *Professor*, Jewish Institute of Religion	"

OFFICERS

President, A. HENRY DETWEILER, Franklin Hall, Cornell University, Ithaca, N. Y.
First Vice-President, W. F. ALBRIGHT, Johns Hopkins University, Baltimore 18, Md.
Second Vice-President, E. A. SPEISER, University of Pennsylvania, Philadelphia 4, Pa.
Secretary, FRANK E. BROWN, Yale University, New Haven, Conn.
Executive Assistant to the President, WILLIAM L. REED, The College of the Bible, Lexington, Ky.
Treasurer, JOHN W. WARRINGTON, Union Trust Building, Cincinnati, Ohio
Assistant Treasurer, THE PROVIDENT TRUST COMPANY, Philadelphia 3, Pa.
Business Manager, New Haven Office, G. R. WALTON, Drawer 93A, Yale Station
Counsel, PEPPER, BODINE, FRICK, SHEETZ and HAMILTON, Philadelphia, Pa.

COMMITTEES

EXECUTIVE COMMITTEE (elected) The President, Secretary and Treasurer, *ex officio*; Messrs. Cameron (56-58), Albright (57-59), Kraeling (58-60). JERUSALEM SCHOOL COMMITTEE: Messrs. Dentan (chairman), Glueck, Muilenburg, Cross, Skehan, Reed. BAGHDAD SCHOOL COMMITTEE: Messrs. Kramer (chairman), Albright, Cameron, Goetze, Braidwood, Crawford. FINANCE COMMITTEE: Messrs. Warrington (chairman), Reynolds, Scott. EDITORIAL COMMITTEE: Messrs. Albright (chairman), Goetze, Winnett, Wright.

THE SCHOOL IN JERUSALEM

DR. FRED V. WINNETT, *Director*, 1958-59
DR. ROBERT J. MARSHALL, *Annual Professor*, 1958-59
DRS. LESTER J. KUYPER and HOWARD T. KUIST, *Honorary Lecturers*, 1958-59
DR. RAYMOND E. BROWN, S.S., and MR. WILLARD G. OXTOBY, *Fellows*, 1958-59

THE SCHOOL IN BAGHDAD

DR. ALBRECHT GOETZE, *Honorary Director*
DR. VAUGHN E. CRAWFORD, *Director*, 1958-59
DR. F. V. WINNETT, *Annual Professor*, 1958-59
DR. GEORGE DALES, *Fellow*, 1958-59